Request. Jan Deboral

Access DB# 126754

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sabiha Qazi Examiner #: 74141 Date: 7/8/04
Art Unit: 1616 Phone Number ~~30~~ 20622 Serial Number: 09/910,887
Mail Box and Bldg/Room Location: 4C70 Rm 4A45 Results Format Preferred (circle): PAPER DISK E-MAIL
If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel Aglycon Dammarane Saponenin

Inventors (please provide full names): HUANG et al

Earliest Priority Filing Date: 7/24/2001

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search compds of Cl 9 + 10.

Please expand the search for any positional isomers at 3, 6, + 12 vs. 1, 2, 7 + 11 in PBM_100.

Please note no OH in PAM_1200

Thank you

****

STAFF USE ONLY

Searcher: Jan
Searcher Phone #: 2504
Searcher Location:
Date Searcher Picked Up: 7/12
Date Completed: 7/12
Searcher Prep & Review Time:
Clerical Prep Time: 20
Online Time: 120

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#) V
Bibliographic
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

STN ✓
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

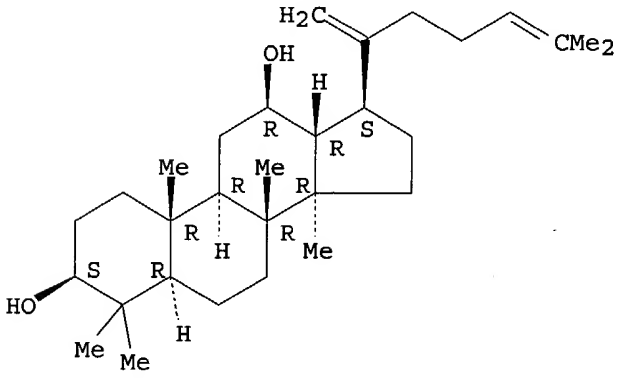
BR 2002005792 A 20030722 BR 2002-5792 20020724
EP 1414843 A1 20040506 EP 2002-750733 20020724
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
PRAI US 2001-910887 A2 20010724
US 2001-982018 A 20011019
WO 2002-CA1173 W 20020724
OS MARPAT 138:362651
AB This invention relates to a group of novel sapogenins, their use in anticancer applications, and to a process for their production More particularly, this invention pertains to a novel group of dammarane sapogenins, **PAM-120**, PBM-110 and **PBM-100** (the dammarane sapogenin structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and PAN-20 and PAN-30 (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anticancer treatment by using them sep. or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anticancer effect when applied, particularly against multidrug resistant cancers.
ST Ginseng dammarane sapogenin isolation antitumor resistance
IT Drug resistance
(antitumor; isolation of dammarane sapogenins and their use as anticancer agents)
IT Saponins
RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dammarane, aglycons; isolation of dammarane sapogenins and their use as anticancer agents)
IT Sapogenins
RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dammarane; isolation of dammarane sapogenins and their use as anticancer agents)
IT Antitumor agents
Drug delivery systems
Human
Multidrug resistance
Neoplasm
Panax notoginseng
Panax pseudoginseng
Panax quinquefolium
(isolation of dammarane sapogenins and their use as anticancer agents)
IT Metal alkoxides
RL: RCT (Reactant); RACT (Reactant or reagent)
(isolation of dammarane sapogenins and their use as anticancer agents)
IT Antitumor agents
(resistance to; isolation of dammarane sapogenins and their use as anticancer agents)
IT 174688-80-3P, PAM-110 364779-14-6P, PAN-20 **494753-66-1P**,

PAM-120 494753-67-2P, PbM-100 494753-69-4P, PAN-30
RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(isolation of dammarane sapogenins and their use as anticancer agents)

IT **494753-66-1P, PAM-120 494753-67-2P, PbM-100**
RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(isolation of dammarane sapogenins and their use as anticancer agents)

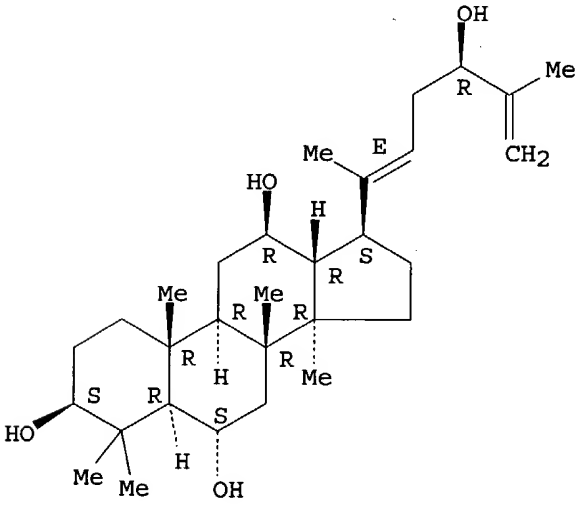
RN 494753-66-1 HCAPLUS
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494753-67-2 HCAPLUS
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3β,6α,12β,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L16 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:97432 HCAPLUS
DN 138:133977

ED Entered STN: 07 Feb 2003
TI Process for producing novel dammarane sapogenins and their use as anticancer agents
IN Huang, Dong; Qi, Dong Feng
PA Panagin Pharmaceuticals Inc., Can.
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07J017-00
ICS A61P035-00
CC 11-1 (Plant Biochemistry)
Section cross-reference(s): 1, 17, 30, 33, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003010182	A1	20030206	WO 2002-CA1173	20020724
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003087835	A1	20030508	US 2001-910887	20010724
	US 2003087836	A1	20030508	US 2001-982018	20011019
	BR 2002005792	A	20030722	BR 2002-5792	20020724
	EP 1414843	A1	20040506	EP 2002-750733	20020724
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRAI	US 2001-910887	A	20010724		
	US 2001-982018	A	20011019		
	WO 2002-CA1173	W	20020724		

OS MARPAT 138:133977
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention relates to a group of novel dammarane sapogenins, such as I [R1 = H, glc, glc(1→2)glc; R2 = H, OH; R3 = Me, CH2], their use in anticancer applications, and to a process for their production from ginseng. More particularly, this invention pertains to a novel group of dammarane sapogenins, **PAM-120** I (R1, R2 = H; R3 = CH2; dashed bond = double bond), PBM-110 II (R1 = H; R2 = OH) and **PBM-100** (III) (the dammarane sapogenin structure is specifically clean of any sugar moieties at any position and hydroxyl at C-20), and PAN-20 I [R1 = β-D-glucopyranosyl; R2 = H; R3 = CH2; dashed bond = double bond] and PAN-30 II [R1 = β-D-glucopyranosyl(1→2) β-D-glucopyranosyl; R2 = H] (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. A novel application of I-III for anti-cancer treatment by using them sep. or together, and/or jointly with other drugs, particularly against multi-drug resistant cancers.

ST dammarane sapogenin prepn anticancer glycoside; ginseng saponin dammarane hydrolysis sapogenin prepn

IT Drug delivery systems
(aerosols; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Metal alkoxides
RL: RGT (Reagent); RACT (Reactant or reagent)
(alkali metal; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Alkali metal compounds
RL: RGT (Reagent); RACT (Reactant or reagent)
(alkoxides; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(capsules; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Triterpenes
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(drops; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(emulsions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(enemas; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Ginsenosides
RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(extract; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Silica gel adsorbents
(for column chromatog.; for purifying dammarane sapogenins)
IT Liquid chromatography
(for purifying dammarane sapogenins)
IT Triterpenes
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(glycosides, dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(granules; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Apoptosis
(in cancer cells; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Beverages
(lemonade; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(liniments; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(liqs.; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(lotions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT Neuroglia, neoplasm
(malignant, treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Sarcoma
(murine, treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(ointments; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(pastes; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(powders; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Antitumor agents
Human
Panax
Panax notoginseng
Panax pseudoginseng
Panax quinquefolium
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Triterpenes
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(sapogenins; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(solns.; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(suppositories; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(suspensions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(syrups; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Drug delivery systems
(tablets; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Mammary gland, neoplasm
Melanoma
Neoplasm
(treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Glycosides
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(triterpenoid, dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
IT Sapogenins
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(triterpenoid; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT 174688-80-3P, PAM 110 364779-14-6P, PAN 20 **494753-66-1P, PAM 120 494753-67-2P, PBM 100** 494753-69-4P, PAN 30
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT 64-17-5, Ethanol, uses
RL: NUU (Other use, unclassified); USES (Uses)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT 15663-27-1, Cisplatin 33069-62-4, Taxol
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT 1310-58-3, Potassium hydroxide, reactions 1310-73-2, Sodium hydroxide, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Kwon, S; JOURNAL OF CHROMATOGRAPHY 2001, V921(2), P335 HCAPLUS

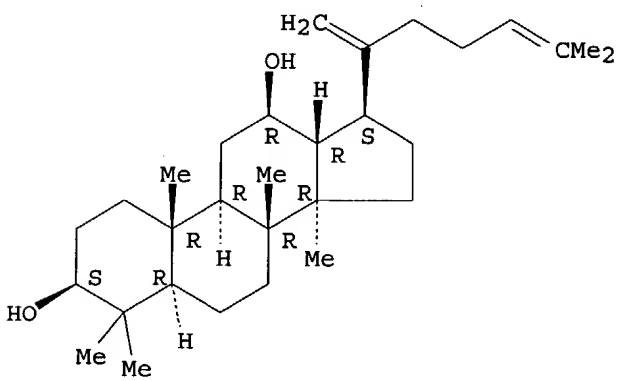
(2) Park, J; WO 9731933 A 1997 HCAPLUS

IT **494753-66-1P, PAM 120 494753-67-2P, PBM 100**
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



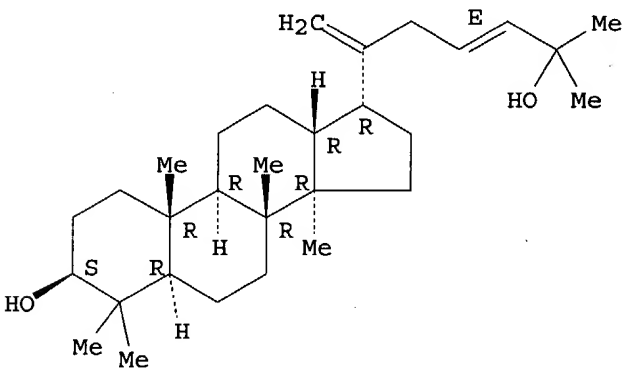
RN 494753-67-2 HCAPLUS

CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3β,6α,12β,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

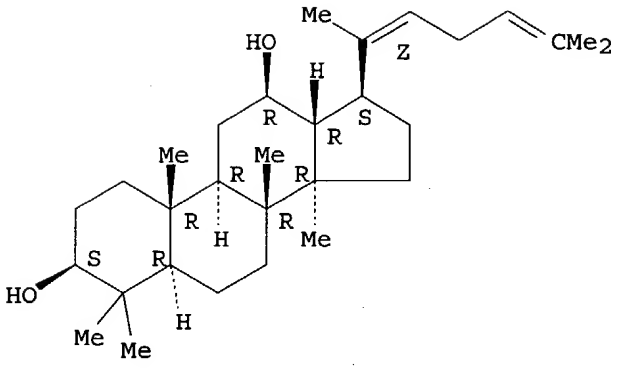
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:214445

REFERENCE 2: 125:11178

L10 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 166241-40-3 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20Z)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Quasipanaxadiol
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

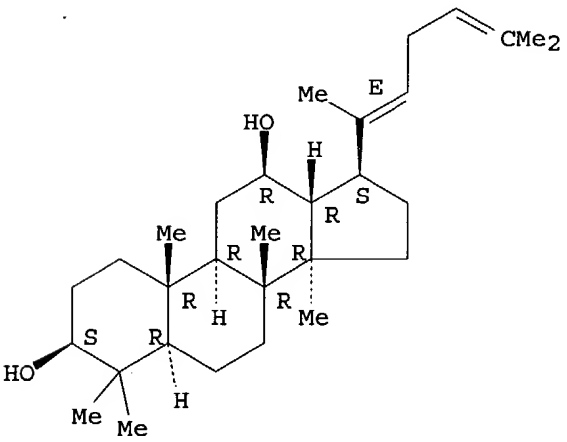
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:79904

REFERENCE 2: 123:122844

L10 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 166241-39-0 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20E)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Quasiprotopanxadiol
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

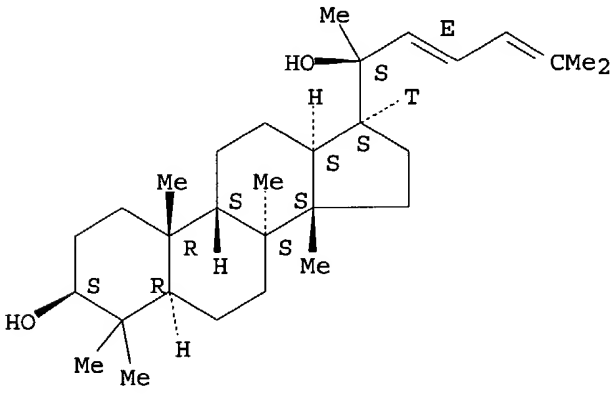
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:157877

REFERENCE 2: 123:122844

L10 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 136658-82-7 REGISTRY
CN Dammara-22,24-diene-17-t-3,20-diol, (3β,8α,9β,13α,14β,22E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H49 O2 T**
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry as shown.

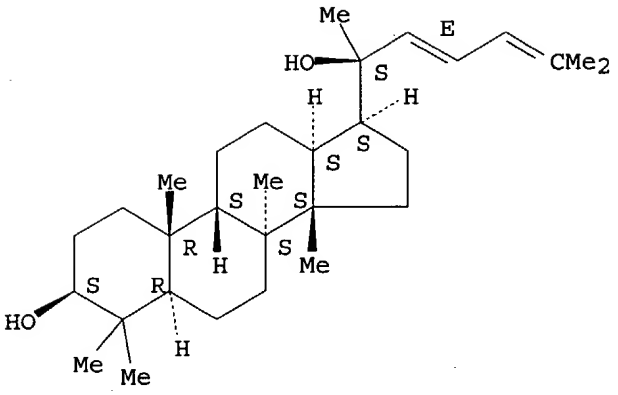


1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:232555

L10 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 136658-81-6 REGISTRY
CN Dammara-22,24-diene-3,20-diol, (3β,8α,9β,13α,14.beta.,22E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMINFORMRX
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry as shown.



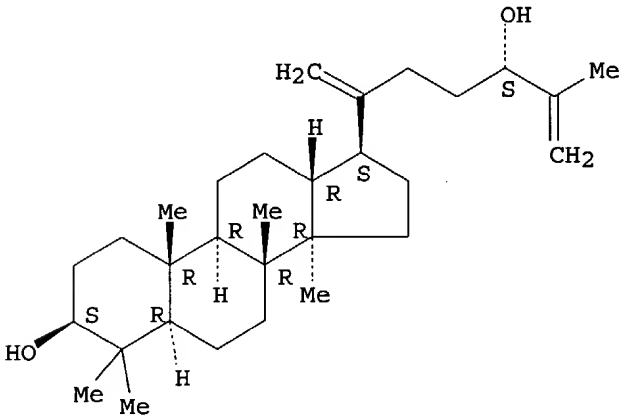
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:232555

L10 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 128778-80-3 REGISTRY
CN Dammara-20,25-diene-3,24-diol, (3β,24S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

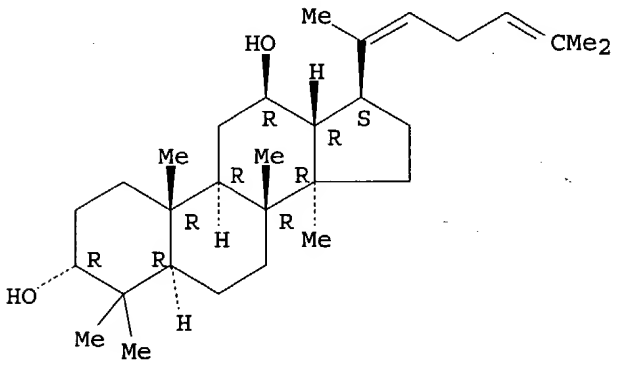
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:268408

REFERENCE 2: 113:94735

L10 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 108266-93-9 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3α,12β)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.
Double bond geometry unknown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

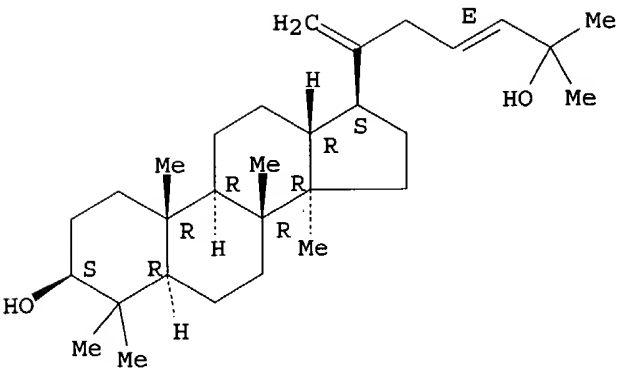
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:231403

REFERENCE 2: 107:23596

L10 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 101559-95-9 REGISTRY
CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:268408

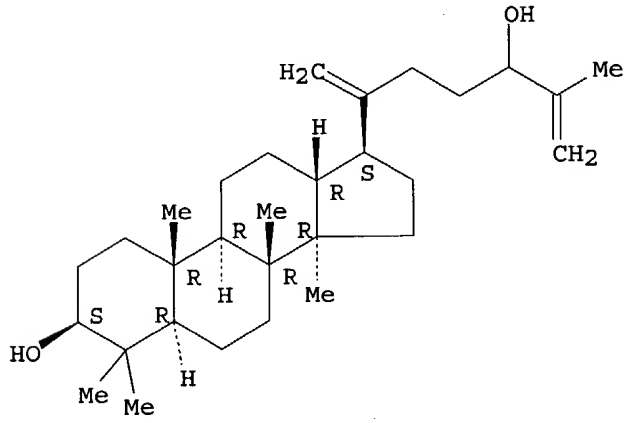
REFERENCE 2: 131:214445

REFERENCE 3: 125:11178

REFERENCE 4: 104:165322

L10 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 101559-89-1 REGISTRY
CN Dammara-20,25-diene-3,24-diol, (3β)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.



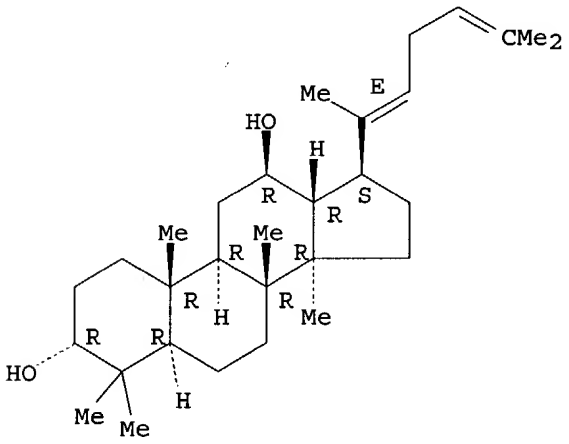
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 104:165322

L10 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 89951-13-3 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3α,12β,20E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C30 H50 O2**
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 100:192109

L10 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 22968-80-5 REGISTRY
CN Dammara-17(20),24-diene-3,28-diol, (3β,4β,8α,9β,13.alpha.,14β,17Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 8α,9β,13α,14β-Dammara-17(20),24-diene-3β,28-diol, (Z)- (8CI)
FS STEREOSEARCH
MF **C30 H50 O2**
LC STN Files: BEILSTEIN*, CA, CAPLUS, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.
Double bond geometry as shown.

FILE 'HCAPLUS' ENTERED AT 11:22:41 ON 12 JUL 2004

=> => fil reg
FILE 'REGISTRY' ENTERED AT 11:34:36 ON 12 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7
DICTIONARY FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d his

(FILE 'HOME' ENTERED AT 11:26:02 ON 12 JUL 2004)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:26:12 ON 12 JUL 2004
L1 496 S (C30H50O2 OR C30H50O4)/MF AND C5-C6-C6-C6/ES
L2 172 S L1 AND 4432.3.1/RID
L3 88 S L2 AND ONE
L4 29 S L2 AND NR>=5
L5 74 S L2 NOT L3,L4
L6 49 S L5 NOT ACETATE
L7 24 S L6 NOT ACID
L8 22 S L7 NOT (494753-67-2 OR 494753-66-1)
L9 11 S L8 NOT DAMMARA
L10 11 S L8 NOT L9

FILE 'HCAOLD' ENTERED AT 11:33:36 ON 12 JUL 2004
L11 0 S L10

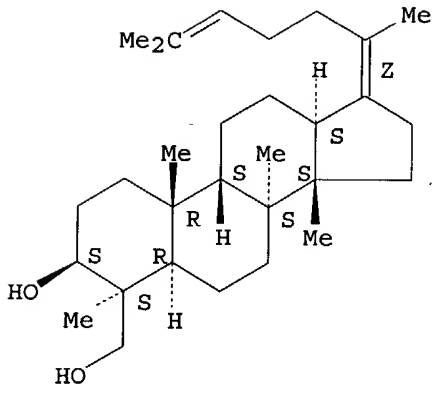
FILE 'USPATFULL, USPAT2' ENTERED AT 11:33:38 ON 12 JUL 2004
L12 2 S L10

FILE 'HCAPLUS' ENTERED AT 11:33:42 ON 12 JUL 2004
L13 14 S L10
L14 13 S L13 AND (PD<=20010724 OR PRD<=20010724 OR AD<=20010724)
L15 14 S L13,L14

FILE 'REGISTRY' ENTERED AT 11:34:36 ON 12 JUL 2004

=> d l10 ide can tot

L10 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 177472-08-1 REGISTRY
CN Dammara-20,23-diene-3,25-diol, (3β,17α,23E)- (9CI) (CA INDEX
NAME)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:277630

REFERENCE 2: 70:4377

=> fil uspatall
FILE 'USPATFULL' ENTERED AT 11:34:46 ON 12 JUL 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 11:34:46 ON 12 JUL 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l12 bib abs hitstr tot

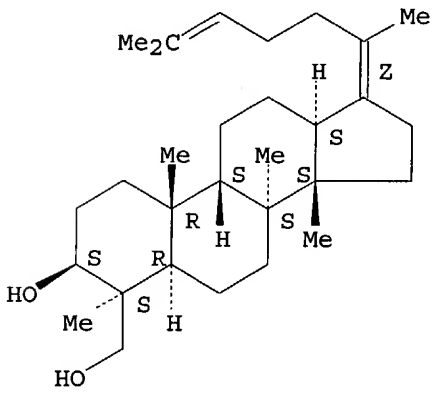
L12 ANSWER 1 OF 2 USPATFULL on STN
AN 2001:10880 USPATFULL
TI Tetracyclic triterpenes as cholesterol-lowering and anti-atherosclerosis agents
IN von Daehne, Welf, Rungsted Kyst, Denmark
Godtfredsen, Wagn Ole, V.ae butted.rl.o slashed.se, Denmark
PA Leo Pharmaceutical Products Ltd. A/S, Ballerup, Denmark (non-U.S. corporation)
PI US 6177418 B1 20010123
WO 9710256 19970320
AI US 1998-43243 19980316 (9)
WO 1996-DK359 19960828
19980316 PCT 371 date
19980316 PCT 102(e) date
PRAI GB 1995-18883 19950915
DT Utility
FS Granted
EXNAM Primary Examiner: Badio, Barbara
LREP Pillsbury Madison & Sutro LLP
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1053
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention is directed to compounds, compositions and method of

preparation of compounds of formulae I and II: ##STR1##

wherein X, Q.sup.1, Q.sup.2, R.sup.1 and R.sup.2 are as defined by the specification. The compounds are disclosed as useful cholesterol-lowering and anti-atherosclerosis agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **22968-80-5P**
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)
RN 22968-80-5 USPATFULL
CN Dammara-17(20),24-diene-3,28-diol, (3β,4β,8α,9β,13.alpha.,14β,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L12 ANSWER 2 OF 2 USPATFULL on STN
AN 1998:159936 USPATFULL
TI Tetracyclic triterpenes
IN Hiestand, Peter, Allschwil, Switzerland
Naef, Reto, Rheinfelden, Switzerland
Naegeli, Hans-Ulrich, Arlesheim, Switzerland
Oberer, Lukas, Tenniken, Switzerland
Revesz, Laszlo, Therwil, Switzerland
Roth, Hans-Jorg, Gipf-Oberfrick, Switzerland
PA Novartis AG, Basel, Switzerland (non-U.S. corporation)
PI US 5852005 19981222
WO 9603419 19960208
AI US 1997-776442 19970124 (8)
WO 1995-EP2913 19950724
19970124 PCT 371 date
19970124 PCT 102(e) date
PRAI GB 1994-1516 19940727
DT Utility
FS Granted
EXNAM Primary Examiner: Clardy, S. Mark; Assistant Examiner: Qazi, Sabiha N.
LREP Loeschorn, Carol A.
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 1176
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to 17 α-dammara compounds having immunosuppressant and antiinflammatory activity and which are useful as pharmaceuticals, particularly for use as immunosuppressant and

antiinflammatory agents. Specific 17 α-dammara compounds are included per se, for example the compound of formula IC, i.e. 17 α-23-(E)-dammara-20, 23-dien-3β, 25-diol, which may be obtained from the flour of the shoots of the Palmyrah palm, Borassus flabellifer L. In addition, processes for the synthesis of this and other dammara compounds and intermediates thereof are described.

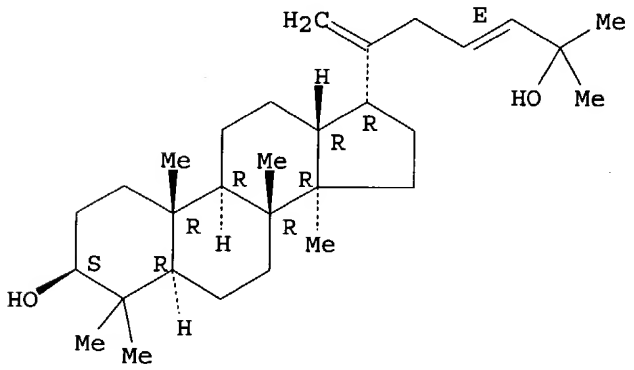
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **177472-08-1P**
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 177472-08-1 USPATFULL

CN Dammara-20,23-diene-3,25-diol, (3β,17α,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.

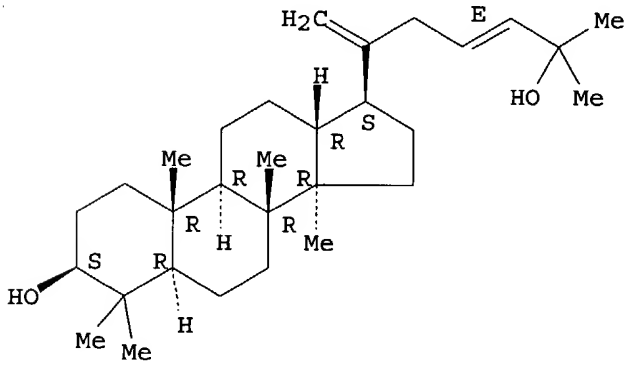


IT **101559-95-9P**
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 101559-95-9 USPATFULL

CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



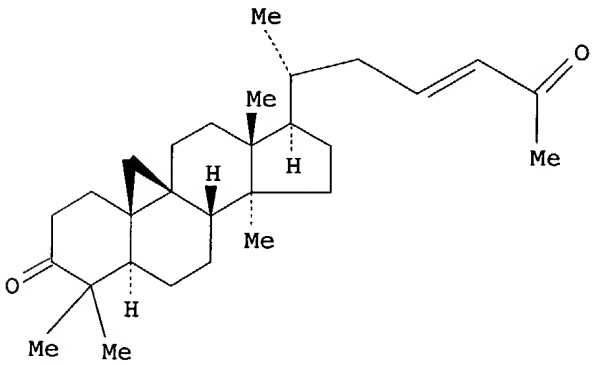
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:35:12 ON 12 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 12 Jul 2004 VOL 141 ISS 3
FILE LAST UPDATED: 11 Jul 2004 (20040711/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot

L15 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:67368 HCAPLUS
DN 138:268408
ED Entered STN: 29 Jan 2003
TI Natural anti-HIV agents. Part IV. Anti-HIV constituents from Vatica cinerea
AU Zhang, Hong-Jie; Tan, Ghee Teng; Hoang, Vu Dinh; Hung, Nguyen Van; Cuong, Nguyen Manh; Soejarto, D. Doel; Pezzuto, John M.; Fong, Harry H. S.
CS Program for Collaborative Research in the Pharmaceutical Sciences (m/c877), Department of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, University of Illinois at Chicago, Chicago, IL, 60612, USA
SO Journal of Natural Products (2003), 66(2), 263-268
CODEN: JNPRDF; ISSN: 0163-3864
PB American Chemical Society
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
Section cross-reference(s): 1
GI



I

AB In a continuing search for anti-HIV compds. from plants of Vietnam, a number of compds., including a new triterpene, were isolated from an extract of the leaves and stem of Vatica cinerea. The new triterpene was determined to be a cycloartane triterpenoid with 29 skeletal carbons and was assigned the

name vaticinone (I). The known triterpenes included three cycloartanes, a lanostane, two dammaranes, three lupanes, an ursane, and an oleanane. A chlorophyll isolate was identified as pheophorbide a. The majority of the triterpenes, the sesquiterpene, 1-hydroxycyclocolorenone, and pheophorbide a showed anti-HIV activity, with the chlorophyll being the most active, demonstrating an IC50 value of 1.5 μg/mL (2.5 μM), while being completely devoid of toxicity up to a concentration of 20 μg/mL (33.8 μM). Vaticinone was found to inhibit the replication of HIV-1, with an IC50 value of 6.5 μg/mL (15.3 μM; selective index = 1.4). The structures of these isolates were determined by spectral data including 1D and 2D NMR spectra.

ST HIV triterpene virucide vaticinone Vatica

IT Antiviral agents
Human immunodeficiency virus
Leaf
Stem
Vatica cinerea
(anti-HIV constituents from leaves and stems of Vatica cinerea)

IT Triterpenes
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-HIV constituents from leaves and stems of Vatica cinerea)

IT Molecular structure, natural product
(of vaticinone (triterpene))

IT New natural products
(vaticinone (triterpene))

IT 77-52-1P, Ursolic acid 472-15-1P, Betulinic acid 473-98-3P, Betulin 545-48-2P, Erythrodiol 4481-62-3P, Betulonic acid 13878-90-5P, Mangiferonic acid 15664-29-6P, Pheophorbide a 55511-16-5P, Dihydroschizandronic acid 67594-83-6P **101559-95-9P** 128656-75-7P **128778-80-3P** 132943-49-8P 503064-28-6P, Vaticinone
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-HIV constituents from leaves and stems of Vatica cinerea)

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

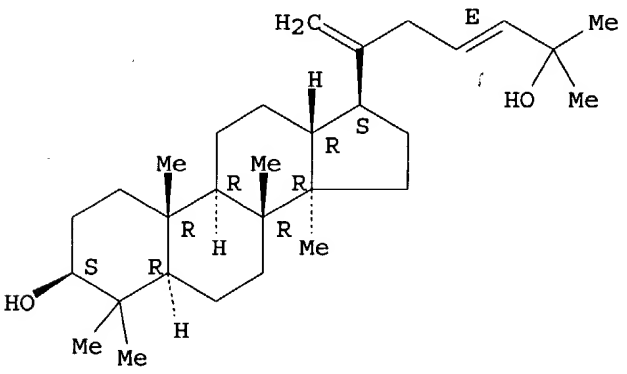
(1) Anjaneyulu, V; Phytochemistry 1999, V50, P1229 HCAPLUS
(2) Anon; JP 02167295 1990 HCAPLUS
(3) Anon; Application:JP 87-299041 19871127 1990
(4) Argyris, E; Eur J Biochem 2001, V268, P925 HCAPLUS
(5) Argyris, E; J Biol Chem 1999, V274, P1549 HCAPLUS
(6) Asakawa, Y; Phytochemistry 1978, V17, P457 HCAPLUS
(7) Chen, L; Chem Lett 1996, P205
(8) Cheng, H; J Nat Prod 2001, V64, P915 HCAPLUS
(9) Corsano, S; Tetrahedron Lett 1965, P2377 HCAPLUS
(10) de Pascual, T; Phytochemistry 1986, V25, P185
(11) Debnath, A; J Med Chem 1994, V37, P1099 HCAPLUS
(12) Faizi, S; Magn Reson Chem 2001, V39, P399 HCAPLUS
(13) Fujioka, T; J Nat Prod 1994, V57, P243 HCAPLUS
(14) Glinski, J; Photochem Photobiol 1995, V62, P144 HCAPLUS
(15) Grellier, P; Vox Sanguinis 1997, V72, P211 HCAPLUS
(16) Hammond, G; Phytochemistry 1990, V29, P783 HCAPLUS
(17) Hans, J; J Org Chem 2000, V65, P2114 HCAPLUS
(18) Haseloff, R; J Photochem Photobiol B 1989, V3, P593 HCAPLUS
(19) Hoang, V; Phytochemistry 2002, V59, P325 HCAPLUS
(20) Ito, J; J Nat Prod 2001, V64, P1278 HCAPLUS
(21) Kamel, A; J Nat Prod 1995, V58, P428 HCAPLUS
(22) Kashiwada, Y; J Nat Prod 2000, V63, P1619 HCAPLUS
(23) Levere, R; Proc Natl Acad Sci U S A 1991, V88, P1756 HCAPLUS
(24) Lin, C; Phytochemistry 1987, V26, P2381 HCAPLUS

(25) Lotjonen, S; Org Magn Reson 1981, V16, P304 HCAPLUS
(26) Machida, K; Phytochemistry 1996, V41, P1333 HCAPLUS
(27) Nes, W; Phytochemistry 1981, V20, P2299 HCAPLUS
(28) Neurath, A; Antiviral Chem, Chemother 1992, V3, P55 HCAPLUS
(29) Neurath, A; J Mol Recogn 1995, V8, P345 HCAPLUS
(30) North, J; J Acquired Immune Defic Syndr 1994, V7, P891 HCAPLUS
(31) Parveen, M; Phytochemistry 1991, V30, P361 HCAPLUS
(32) Pass, H; J Natl Cancer Inst 1993, V85, P443 MEDLINE
(33) Piot, P; Nature 2001, V410, P968 MEDLINE
(34) Sery, T; Cancer Res 1979, V39, P96 HCAPLUS
(35) Sholichin, M; Chem Pharm Bull 1980, V28, P1006 HCAPLUS
(36) Soejarto, D; Pharm Biol 1999, V37(Suppl), P100
(37) Takahashi, K; Chem Pharm Bull 1975, V23, P538 HCAPLUS
(38) Watanabe, Y; Jpn Kokai Tokkyo Koho 1990, P5
(39) Wongsinkongman, P; Bioorg Med Chem 2002, V10, P583 HCAPLUS
(40) Zhang, H; Tetrahedron 2003, V59, P141 HCAPLUS

IT **101559-95-9P 128778-80-3P**
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-HIV constituents from leaves and stems of Vatica cinerea)

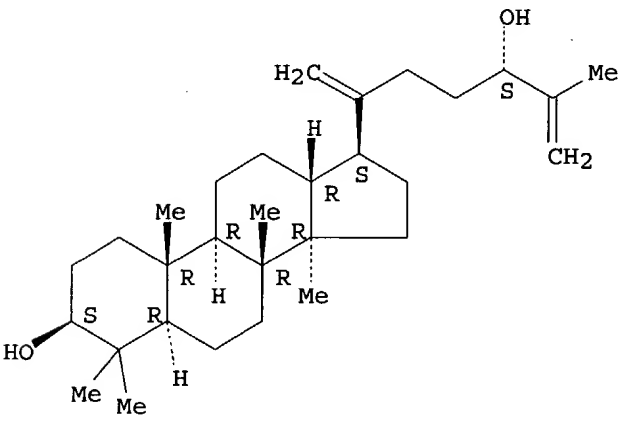
RN 101559-95-9 HCAPLUS
CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

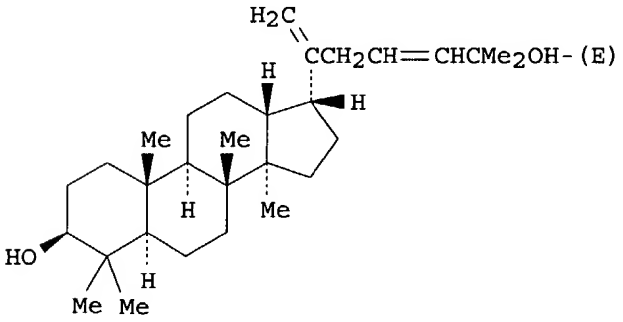


RN 128778-80-3 HCAPLUS
CN Dammara-20,25-diene-3,24-diol, (3β,24S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L15 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:386115 HCAPLUS
DN 131:214445
ED Entered STN: 23 Jun 1999
TI Isolation and synthesis of a novel immunosuppressive 17α-substituted dammarane from the flour of the Palmyrah palm (Borassus flabellifer)
AU Revesz, L.; Hiestand, P.; La Vecchia, L.; Naef, R.; Naegeli, H.-U.; Oberer, L.; Roth, H.-J.
CS Novartis Pharma AG, Arthritis and Bone Research, Switzerland, 4002, Switz.
SO Bioorganic & Medicinal Chemistry Letters (**1999**), 9(11), 1521-1526
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
CC 30-30 (Terpenes and Terpenoids)
Section cross-reference(s): 1, 11
GI



I

AB The novel triterpene I with a dammarane skeleton and a unknown 17α-substitution pattern was isolated from the Palmyrah palm in low yield and prepared by synthesis in larger quantities. I was shown to be an extremely potent immunosuppressant in vitro (MLR; IC50=10 ng/mL) and in vivo (DTH; ED50=0.01 mg/kg p.o.). A glucocorticoid like activity was excluded.
ST dammarane triterpene isolation Borassus prepn; immunosuppressant dammarane triterpene isolation prepn
IT New natural products
(17α-substituted dammarane (triterpene))
IT Triterpenes
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(dammarane; isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)
IT Immunosuppressants
Immunosuppression
Palmyra palm (Borassus flabellifer)
Stille coupling reaction
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)
IT Molecular structure, natural product
(of a 17α-substituted dammarane (triterpene))
IT **177472-08-1P**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological

occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

IT **101559-95-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

IT 108-24-7, Acetic anhydride 6812-25-5 19222-66-3 39085-59-1, 2,4,6-Triisopropylbenzenesulfonyl hydrazide
RL: RCT (Reactant); RACT (Reactant or reagent)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

IT 3819-21-4P 110654-89-2P 241816-35-3P 241816-36-4P 241816-37-5P 241816-38-6P 241816-39-7P 241816-40-0P 241816-41-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

IT 108272-43-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

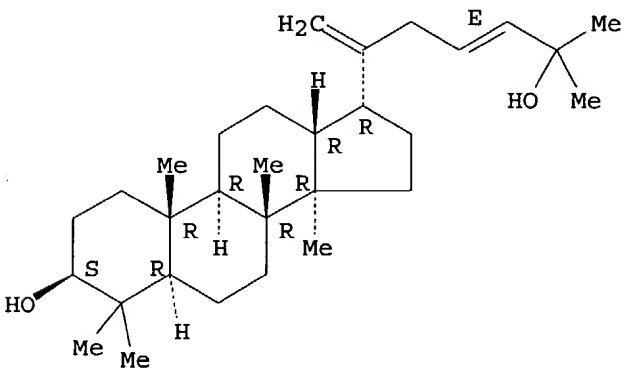
(1) Arseculeratne, S; Ceylon Med J 1991, V36, P137
(2) Arseculeratne, S; Proc Soc Exp Biol Med 1981, V168, P356 MEDLINE
(3) Greis, J; Food Cosmet Toxicol 1980, V18, P483
(4) Kangwangpong, D; Mutat Res 1981, V89, P63
(5) Meo, T; Immunological Methods P227
(6) Panabokke, R; Sri Lanka Assoc Adv Sci 1977, V35, P5

IT **177472-08-1P**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)

RN 177472-08-1 HCAPLUS

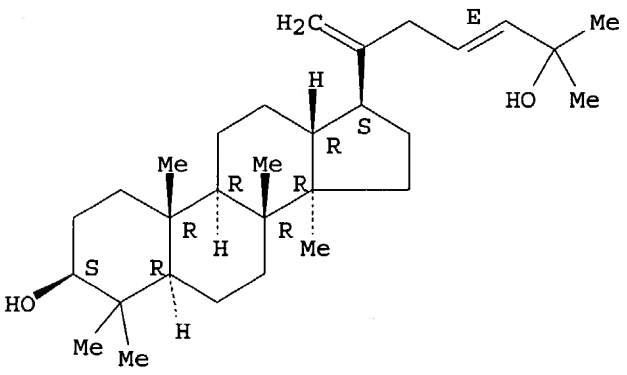
CN Dammara-20,23-diene-3,25-diol, (3β,17α,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



IT **101559-95-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(isolation and preparation of a new immunosuppressive 17α-substituted dammarane from Borassus)
RN 101559-95-9 HCAPLUS
CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)

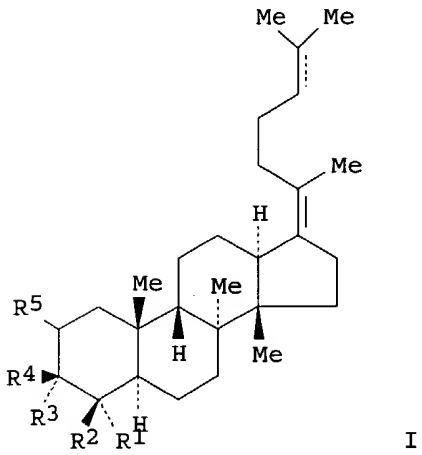
Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:296935 HCAPLUS
DN 126:277630
ED Entered STN: 09 May 1997
TI Tetracyclic triterpenes as cholesterol-lowering and anti-atherosclerosis agents
IN Von, Daehne Welf; Godtfredsen, Wagn Ole
PA Leo Pharmaceutical Products Ltd. A/S, Den.; Von Daehne, Welf; Godtfredsen, Wagn, Ole
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07J013-00
ICS A61K031-56; C07J071-00; C07J015-00; C07J021-00; C07J017-00; C07J031-00
CC 30-30 (Terpenes and Terpenoids)
Section cross-reference(s): 1, 32
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI WO 9710256	A1	19970320	WO 1996-DK359	19960828	<--
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM					
AU 9667850	A1	19970401	AU 1996-67850	19960828	<--
EP 863914	A1	19980916	EP 1996-928347	19960828	<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
JP 11512402	T2	19991026	JP 1996-511568	19960828	<--
US 6177418	B1	20010123	US 1998-43243	19980316	<--

PRAI GB 1995-18883 A 19950915 <--
WO 1996-DK359 W 19960828 <--
OS MARPAT 126:277630
GI



I

AB Title compds. I [R1 = H, Me; R2 = H, Me, (un)substituted CH2OH, CH=CH2, COH, (un)substituted CO2H; R3, R4 = H, (un)substituted OH; R3R4 = O; R3R2, R4R1 = bond; R2R4 = O; R5 = H; R4R5 = bond] were prepared Thus, 3β-hydroxyprotosta-17(20)Z,24-dien-29-oic acid was isolated from a crude fusidic acid solution, esterified, reduced to 3β,29-dihydroxyprotosta-17(20)Z,24-diene, monotosylated and reduced to 3β-hydroxyprotosta-17(20)Z,24-diene. This compound was epoxidized to give a mixture of 17,20-epoxides and 17,20;24,25-diepoxides.

ST triterpene tetracyclic isolation fusidic acid reaction; protostadienoic acid hydroxy isolation reaction; anticholesteremic protostadienoic acid deriv; antiatherosclerotic protostadienoic acid deriv

IT Antiarteriosclerotics
(antiatherosclerotics; preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT Anticholesteremic agents
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT 188602-20-2P
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT 6990-06-3, Fusidic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT 22879-37-4P **22968-80-5P** 23534-71-6P 188602-21-3P
188602-22-4P 188602-23-5P 188602-24-6P 188602-25-7P 188602-33-7P
188602-34-8P 188602-35-9P 188602-38-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT 188602-19-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and

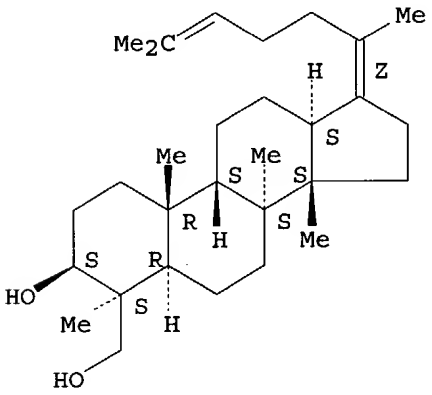
antiatherosclerotic agents)

IT 188602-26-8P 188602-27-9P 188602-28-0P 188602-29-1P 188602-30-4P
188602-31-5P 188602-32-6P 188602-36-0P 188602-37-1P 188602-39-3P
188602-40-6P 188602-41-7P 188602-42-8P 188602-43-9P 188602-44-0P
188602-45-1P 188602-46-2P 188602-47-3P 188602-48-4P 188602-49-5P
188602-50-8P 188602-51-9P 188924-02-9P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT **22968-80-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

RN 22968-80-5 HCAPLUS
CN Dammara-17(20),24-diene-3,28-diol, (3β,4β,8α,9β,13.alpha.,14β,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:41808 HCAPLUS
DN 126:79904
ED Entered STN: 20 Jan 1997
TI Anticancer sapogenin extraction from ginseng and pharmaceutical compositions containing the sapogenin
IN Hasegawa, Hideo; Sei, Shokan; Matsumya, Tomoyuki; Uchama, Masamori
PA Hatsupii Waarudo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07J009-00
ICS A61K031-575; A61K045-00
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 1, 11
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08291194	A2	19961105	JP 1995-115321	19950418 <--
PRAI JP 1995-115321		19950418 <--		

AB Extraction of anticancer sapogenins, quasipanaxadiol and quasipanaxatriol, from ginseng and pharmaceutical compns. containing the sapogenin are claimed. Tablets were formulated containing quasipanaxadiol 30 mg and lactose, crystalline

cellulose and magnesium stearate (200 mg/tablet). Both sapogenins inhibited the growth of leukemia cell P388 in cultures.

ST anticancer sapogenin ginseng pharmaceutical

IT Antitumor agents
Ginseng (Panax)
Molecular structure
New natural products
Nomenclature, general
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

IT Sapogenins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

IT Drug delivery systems
(injections; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

IT Antitumor agents
(leukemia; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

IT Drug delivery systems
(tablets; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

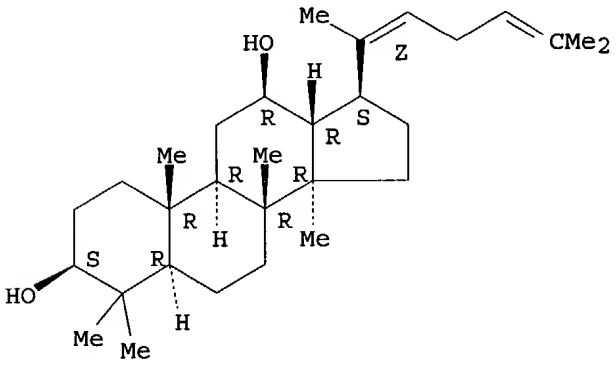
IT **166241-40-3P**, Quasipanaxadiol 171903-78-9P, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

IT **166241-40-3P**, Quasipanaxadiol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)

RN 166241-40-3 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

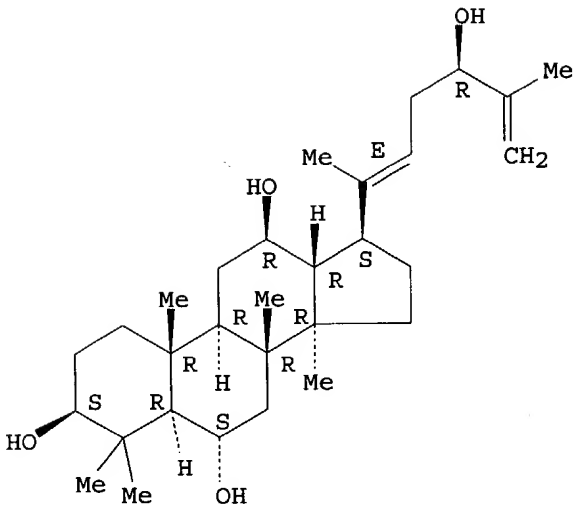


L15 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:431012 HCAPLUS

DN 125:157877

ED Entered STN: 20 Jul 1996
TI Effects of ginseng saponin on modulation of multidrug resistance
AU Park, Jong-Dae; Kim, Dong-Sun; Kwon, Hyeok-Young; Son, Sang-Kwon; Lee, You-Hui; Baek, Nam-In; Kim, Shin-Il; Rhee, Dong-Kwon
CS Korea Ginseng & Tobacco Research Institute, Taejon, 305-345, S. Korea
SO Archives of Pharmacal Research (**1996**), 19(3), 213-218
CODEN: APHRDQ; ISSN: 0253-6269
PB Pharmaceutical Society of Korea
DT Journal
LA English
CC 1-6 (Pharmacology)
Section cross-reference(s): 33
AB Multidrug resistance (MDR) has been a major problem in cancer chemotherapy. To overcome this problem, the authors prepared minor ginsenosides stereoselectively from ginseng saponins and searched for a ginseng component which is effective for inhibition of MDR. MDR inhibition activity was determined by measuring cytotoxicity to MDR cells using multidrug resistant human fibrocarcinoma KB V20C, which is resistant to 20 nM vincristine and expresses high level of mdr1 gene. Of several ginseng components, 20(S)-ginsenoside Rg3, a red ginseng saponin, was found to have the most potent inhibitory activity on MDR and it's concentration capable of
inhibiting 50% growth was 82 μM.
ST ginseng saponin multidrug resistance modulation antitumor
IT Ginseng
Neoplasm inhibitors
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT Saponins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT Glycosides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenosides, effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT Drug resistance
(multi-, effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT 14197-60-5, 20(S)-Ginsenoside Rg3 38243-03-7, 20(R)-Ginsenoside Rg3 41753-43-9, Ginsenoside Rb1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT 74964-14-0P, Ginsenoside Rg31 180250-87-7P 180250-88-8P 180468-67-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
IT 57-22-7, Vincristine 1453-93-6, Protopanaxatriol 7755-01-3, Protopanaxadiol 11021-13-9, Ginsenoside Rb2 11021-14-0, Ginsenoside Rc 19666-76-3, Panaxadiol 22427-39-0, Ginsenoside Rg1 32791-84-7, Panaxatriol 52286-58-5, Ginsenoside Rf 52286-59-6, Ginsenoside Re 52286-74-5, 20(S)-Ginsenoside Rg2 52705-93-8, Ginsenoside Rd 63223-86-9, 20(S)-Ginsenoside Rh1 78214-33-2, 20(S)-Ginsenoside Rh2 80952-71-2, 20(R)-Ginsenoside Rh1 80952-72-3, 20(R)-Ginsenoside Rg2



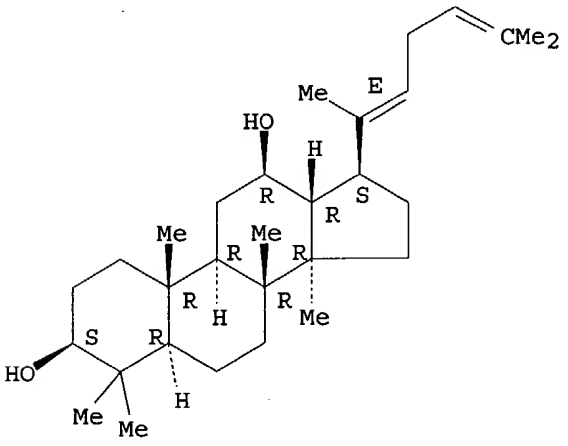

```
=> d his

     (FILE 'HOME' ENTERED AT 11:12:56 ON 12 JUL 2004)
               SET COST OFF

     FILE 'REGISTRY' ENTERED AT 11:13:10 ON 12 JUL 2004
               E PAM/CN
L1             1 S E14
               E PBM/CN
L2             1 S E4
               E C30H50O2/MF
L3           343 S E3 AND C5-C6-C6-C6/ES
L4           319 S L3 AND 4/NR
L5             7 S L4 AND 3 12 DIOL
L6             6 S L5 NOT L1
L7             2 S L4 AND 20 24 DIENE
               E C30H50O4/MF
L8            98 S E3 AND C5-C6-C6-C6/ES AND 4/NR
L9             6 S L8 AND TETROL
L10            2 S L1,L2
               SEL RN
L11            0 S E1-E2/CRN

     FILE 'HCAOLD' ENTERED AT 11:20:44 ON 12 JUL 2004
L12            0 S L10

     FILE 'HCAPLUS' ENTERED AT 11:20:47 ON 12 JUL 2004
L13            4 S L10
L14           20 S PAM120 OR PAM 120 OR PBM100 OR PBM 100
L15            2 S L14 AND L13
L16            4 S L13,L15
L17           18 S L14 NOT L16

     FILE 'USPATFULL, USPAT2' ENTERED AT 11:22:07 ON 12 JUL 2004
L18            4 S L10

     FILE 'REGISTRY' ENTERED AT 11:22:21 ON 12 JUL 2004

     FILE 'USPATFULL, USPAT2' ENTERED AT 11:22:31 ON 12 JUL 2004
```

105558-26-7, Ginsenoside Rh3 112246-15-8, 20(R)-Ginsenoside Rh2
166241-39-0, Quasiprotopanxadiol 174688-80-3,
Quasiprotopanaxatriol 174721-08-5, Ginsenoside Rh4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)

IT **166241-39-0**, Quasiprotopanxadiol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)

RN 166241-39-0 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:337983 HCAPLUS
DN 125:11178
ED Entered STN: 11 Jun 1996
TI Tetracyclic triterpenes
IN Hiestand, Peter; Naef, Reto; Naegeli, Hans-Ulrich; Oberer, Lukas; Revesz, Laszlo; Roth, Hans-Joerg
PA Sandoz Ltd., Switz.; Sandoz-Patent-Gmbh; Sandoz-Erfindungen Verwaltungsgesellschaft M.B.H.
SO PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07J009-00
ICS A61K031-565; C07J001-00; A61K031-575; C07J007-00; C07J051-00
CC 30-30 (Terpenes and Terpenoids)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9603419	A1	19960208	WO 1995-EP2913	19950724 <--

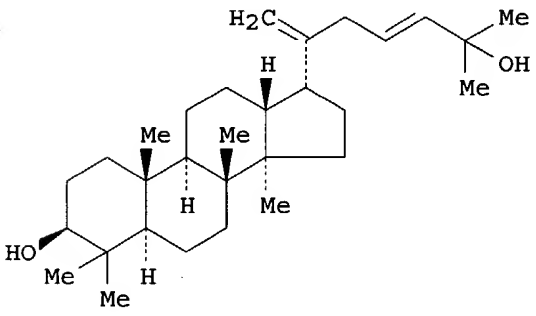
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,

TT, UA
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	ZA 9506279	A	19970127	ZA 1995-6279	19950717	<--
	CA 2192789	AA	19960208	CA 1995-2192789	19950724	<--
	AU 9531166	A1	19960222	AU 1995-31166	19950724	<--
	AU 704929	B2	19990506			
	CN 1154113	A	19970709	CN 1995-194373	19950724	<--
	EP 801653	A2	19971022	EP 1995-926974	19950724	<--
	EP 801653	A3	19971029			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI					
	HU 76831	A2	19971128	HU 1997-246	19950724	<--
	JP 10503191	T2	19980324	JP 1995-505467	19950724	<--
	BR 9508344	A	19980714	BR 1995-8344	19950724	<--
	FI 9700320	A	19970124	FI 1997-320	19970124	<--
	NO 9700329	A	19970325	NO 1997-329	19970124	<--
	US 5852005	A	19981222	US 1997-776442	19970124	<--
PRAI	GB 1994-15161	A	19940727 <--			
	WO 1995-EP2913	W	19950724 <--			

OS CASREACT 125:11178

GI



I

AB Dammara compds. have immunosuppressant and antiinflammatory activity and are useful as pharmaceuticals, particularly for use as immunosuppressant and anti-inflammatory agents. 17α Dammara compds. are novel and are included per se, for example the compound of formula I [(17α)-23-(E)-dammara-20,23-diene-3β,25-diol], which may be obtained from the flour of the shoots of Palmyrah palm, Borassus flabellifer L. In addition processes for the synthesis of this and other dammara compds. and intermediates thereof are described.

ST dammara compd prepn immunosuppressant antiinflammatory activity; dammaradienediol isolation prepn immunosuppressant antiinflammatory activity

IT Immunosuppressants
Inflammation inhibitors
Pharmaceutical dosage forms
Therapeutics
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Toxicity
(cytotoxicity, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Triterpenes and Triterpenoids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(dammarane, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Immunity
(humoral, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT **177472-08-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT **101559-95-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 3819-21-4 6812-25-5 39085-59-1, 2,4,6-Triisopropylbenzenesulfonic acid hydrazide
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

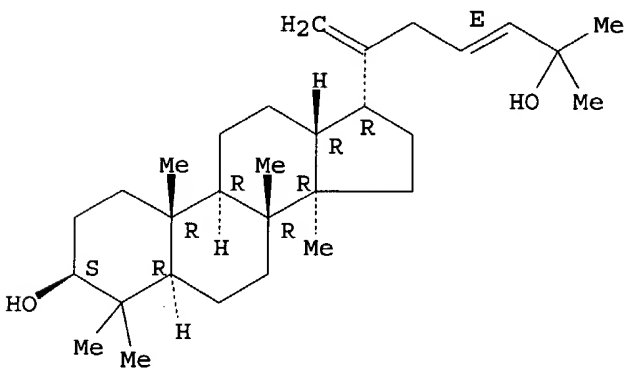
IT 177287-52-4P 177287-53-5P 177287-54-6P 177287-55-7P 177287-56-8P 177287-57-9P 177287-58-0P 177472-05-8P 177472-06-9P 177472-07-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT **177472-08-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 177472-08-1 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3β,17α,23E)- (9CI) (CA INDEX NAME)

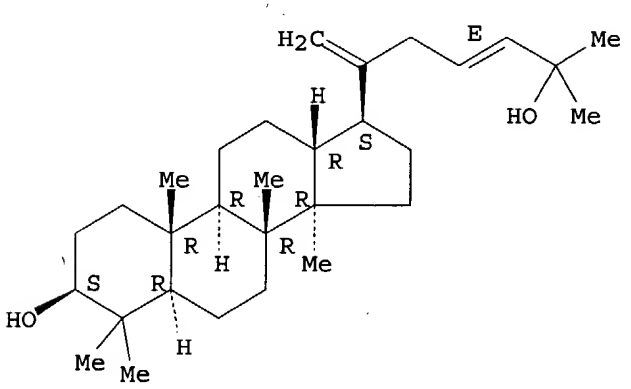
Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



IT **101559-95-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); USES (Uses)
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)
RN 101559-95-9 HCAPLUS
CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)

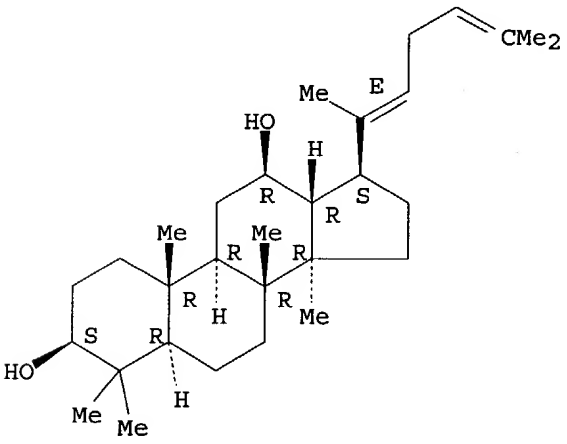
Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:712730 HCAPLUS
DN 123:122844
ED Entered STN: 01 Aug 1995
TI Preparation and structure determination of a new glycoside, (20E)-ginsenoside Rh3, and its isomer from diol-type ginseng saponins
AU Kim, Dong Seon; Baek, Nam In; Park, Jong Dae; Lee, You Hui; Jeong, So Young; Lee, Chun Bae; Kim, Shin Il
CS College Natural Sciences, Chung Nam National University, Taejeon, 305-764, S. Korea
SO Yakhak Hoechi (**1995**), 39(1), 85-93
CODEN: YAHOA3; ISSN: 0513-4234
PB Pharmaceutical Society of Korea
DT Journal
LA Korean
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 33
AB Acidic and alkaline hydrolysis of diol-type ginseng saponins produced a new glycoside, (20E)-ginsenoside Rh3, and its stereoisomer (20Z), which were further subjected to alkaline hydrolysis to give their aglycons, (20E)- and (20Z)-3β,12β-dihydroxydammar-20(22),24-diene. The ratio of stereoisomeric mixts. was estimated to be .apprx.5:1 from intensities of the peaks in 1H-and 13C-NMR spectra. The 1H- and 13C-NMR signals of ginsenoside Rh3, which have remained unclarified, were completely assigned by the extensive application of modern NMR techniques.
ST ginsenoside Rh3 isomer prepn structure; ginseng saponin ginsenoside Rh3 isomer prepn
IT Ginseng
Molecular structure, natural product
(preparation and structure determination of ginsenoside Rh3 isomers from diol-type
ginseng saponins)
IT Saponins
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(preparation and structure determination of ginsenoside Rh3 isomers from diol-type
ginseng saponins)

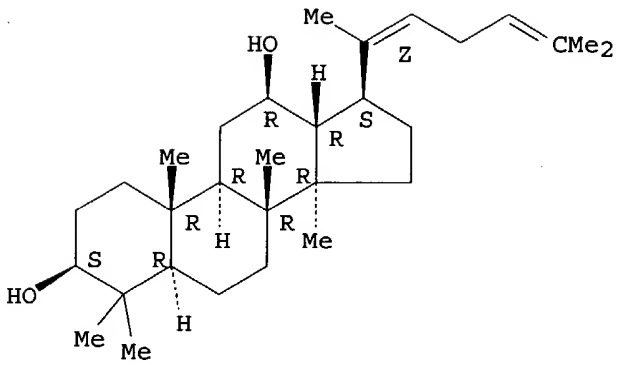
IT Hydrolysis
(acid, preparation and structure determination of ginsenoside Rh3 isomers from
diol-type ginseng saponins)
IT Hydrolysis
(base, preparation and structure determination of ginsenoside Rh3 isomers from
diol-type ginseng saponins)
IT 105558-26-7P, Ginsenoside Rh3 166040-90-0P **166241-39-0P**
166241-40-3P
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(preparation and structure determination of ginsenoside Rh3 isomers from diol-type
ginseng saponins)
IT **166241-39-0P 166241-40-3P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(preparation and structure determination of ginsenoside Rh3 isomers from diol-type
ginseng saponins)
RN 166241-39-0 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 166241-40-3 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:632555 HCAPLUS
DN 115:232555
ED Entered STN: 29 Nov 1991
TI New mechanistic and stereochemical insights on the biosynthesis of sterols from 2,3-oxidosqualene
AU Corey, E. J.; Virgil, Scott C.; Sarshar, Sepehr
CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
SO Journal of the American Chemical Society (**1991**), 113(21), 8171-2
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
CC 30-30 (Terpenes and Terpenoids)
Section cross-reference(s): 7, 9, 22, 32, 75
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The enzymic cyclization of (18E, 20E)-20,21-dehydro-2,3-oxidosqualene (I) by yeast and porcine liver enzymes has been shown to produce the protostereol derivative II (R = H, R1 = CH:CHCH:CMe2) stereospecifically. The structure of II (R = H, R1 = CH2CH2CH:CMe2) was established unequivocally by correlation with the totally synthetic protostereol II (R = H, R1 = CH2CH2CH:CMe2), the structure of which was verified by X-ray crystallog. of II (R = p-BrC6H4NHCO, R1 = CH2CH2CH:CMe2). The BF3-catalyzed rearrangement at -90° in CH2Cl2 of four 20-hydroxy protosterol 3-benzoates which are epimeric at C(17) and C(20) produced parkeol derivs. The rearrangement is stereospecific at C(20) starting with the epimers having a 17β-oriented side chain III and the C(20) epimer] and completely nonstereospecific at C(20) for the epimers having a 17α-oriented side-chain. As a result of these studies it is clear that the cyclization of 2,3-oxidosqualene produces the protostereol chain IV having the 17β-oriented side-chain and that C(17)→C(20) hydride migration stereospecifically produces the natural 20R sterol configuration as a consequence of favorable stereoelectronics and restricted rotation about the C(17)-C(20) bond. The enzymic formation of II (R = H, R1 = CH:CHCH:CMe2) suggests that in the cyclization of 2,3-oxidosqualene a water mol. may help to stabilize the cation IV (non-covalently) but without competing kinetically with the C(17)→C(20) hydride migration step and that the C(21)-C(26) side-chain atoms are inaccessible to water and probably bound in a hydrophobic pocket.
ST sterol biosynthesis mechanism stereochem; oxidosqualene bioconversion

sterol mechanism stereochem; protosterol urethane crystal mol structure; parkeol dihydro prepn; configuration retention rearrangement protosterol benzoate

IT Stereochemistry
(of biotransformation of oxidosqualene to protosterols)

IT Molecular structure
(of protolsterol bromophenylurethane)

IT Crystal structure
(of protosterol bromophenylurethane chloroform solvate)

IT Configuration
Conformation and Conformers
(of protosterol cations, stereospecificity of sterol biosynthesis in relation to)

IT Stereoelectronic effect
(on stereospecificity of sterol biosynthesis)

IT Steroids, preparation
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(hydroxy, biosynthesis of, from oxidosqualenes, mechanism and stereochem. insights to)

IT 134003-21-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with isohexenylmagnesium bromide)

IT 118198-28-0 133966-65-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of, with isooctadienylphosphonium bromide)

IT **136658-81-6P 136658-82-7P**
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(biosynthesis and hydrogenation of)

IT 136631-54-4P 136631-55-5P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(biosynthesis of)

IT 136631-48-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of dihydroparkeols)

IT 134052-31-6P 136658-52-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of protosterols from oxidosqualene)

IT 136631-45-3P 136631-51-1P 136734-50-4P 136777-54-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and bioconversion of, with baker's yeast, microsomal protein, or porcine liver homogenate)

IT 136734-46-8P 136734-49-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and boron trifluoride-induced rearrangement of)

IT 136631-46-4P 136631-53-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

IT 136734-43-5P 136735-34-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and desilylation or hydrogenation of)

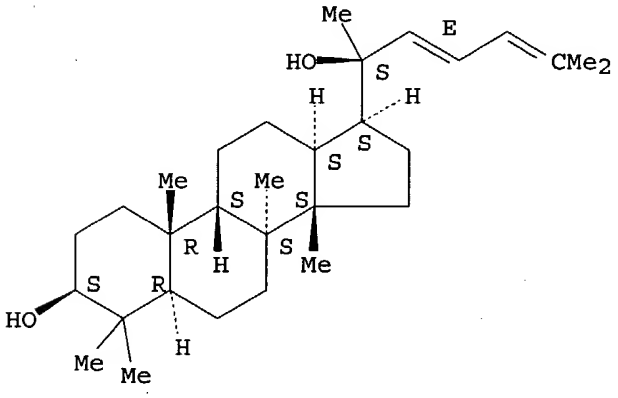
IT 136734-45-7P 136734-47-9P 136734-48-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)

IT 136734-44-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and hydrogenation or reaction of, with bromophenylisocyanate)

IT 136631-47-5P 136631-52-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

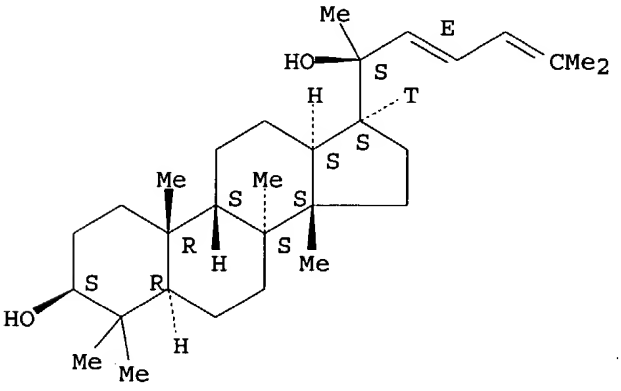
(preparation and mol. structure of)
IT 136658-83-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and silylation of)
IT 70016-63-6P 136631-50-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from hydroxyprotosterol benzoate)
IT 58045-43-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, phosphonium salt formation, in Wittig reaction of, with epoxytetramethyloctadecatrienyl)
IT 16647-04-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, in preparation of protosterols)
IT **136658-81-6P 136658-82-7P**
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(biosynthesis and hydrogenation of)
RN 136658-81-6 HCAPLUS
CN Dammara-22,24-diene-3,20-diol, (3β,8α,9β,13α,14.beta.,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

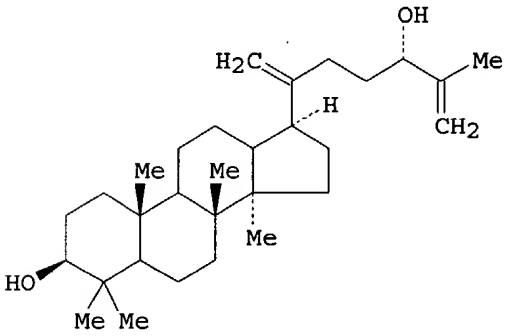


RN 136658-82-7 HCAPLUS
CN Dammara-22,24-diene-17-t-3,20-diol, (3β,8α,9β,13α,14β,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:494735 HCAPLUS
DN 113:94735
ED Entered STN: 16 Sep 1990
TI Dammara-20,25-dien-3β,24α-diol: a natural repellent of Acromyrmex octospinosus
AU Hammond, Gerald B.; Baenziger, Norman C.; Wiemer, David F.
CS Dep. Chem., Univ. Iowa, Iowa City, IA, 52242, USA
SO Phytochemistry (**1990**), 29(3), 783-5
CODEN: PYTCAS; ISSN: 0031-9422
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
Section cross-reference(s): 5, 30
GI

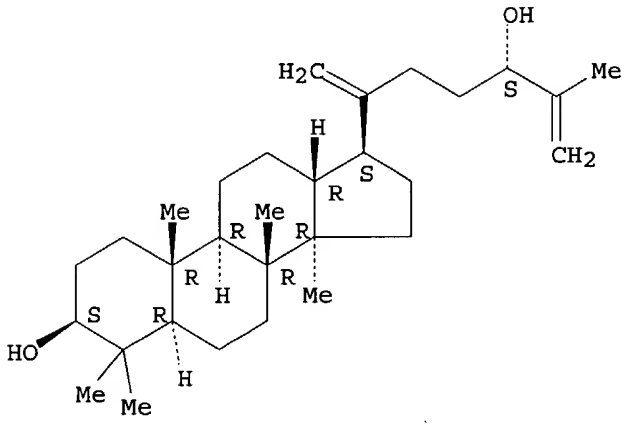


I

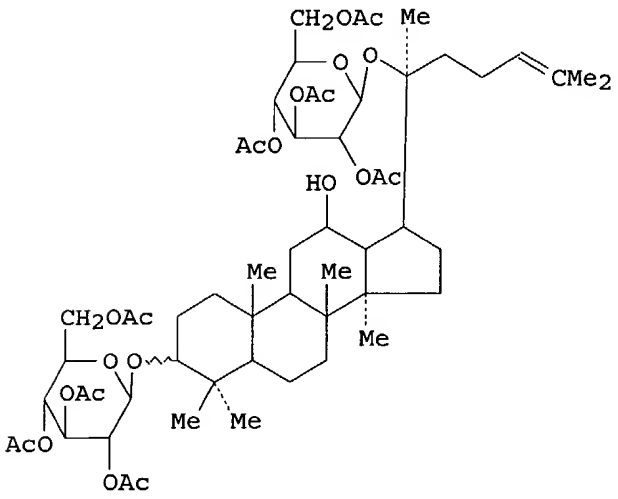
AB Dammara-20,25-diene-3β,24α-diol (I) was isolated from the hexane extract of Abuta racemosa, characterized by NMR spectroscopy and single crystal diffraction anal., and shown to be a natural repellent of an attine ant.

ST dammaradienediol Abuta ant repellent
IT Abuta racemosa
(dammaradiendiol from, structure and ant-repellent activity of)
IT Insect repellents
(dammaradiendiol, of leaf cutter ant, from Abuta racemosa)
IT Configuration
Conformation and Conformers
Crystal structure
(of dammaradiendiol)
IT Triterpenes and Triterpenoids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(of Abuta racemosa, ant-repellent activity of)
IT Acromyrmex octospinosus
(repellent of, dammaradiendiol from Abuta racemosa as)
IT **128778-80-3**
RL: BIOL (Biological study)
(from Abuta racemosa leaves, isolation and structure determination and leaf cutter ant-repellent activity of)
IT **128778-80-3**
RL: BIOL (Biological study)
(from Abuta racemosa leaves, isolation and structure determination and leaf cutter ant-repellent activity of)
RN 128778-80-3 HCAPLUS
CN Dammara-20,25-diene-3,24-diol, (3β,24S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L15 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:631403 HCAPLUS
DN 109:231403
ED Entered STN: 24 Dec 1988
TI Semisynthetic anlogs of ginsenosides, glycosides from ginseng
AU Atopkina, L. N.; Denisenko, V. A.; Uvarova, N. I.; Elyakov, G. B.
CS Pac. Inst. Bioorg. Chem., Vladivostok, USSR
SO Carbohydrate Research (**1988**), 177, 101-9
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
CC 33-3 (Carbohydrates)
Section cross-reference(s): 32
OS CASREACT 109:231403
GI



II

AB Glycosylation of dammar-24-ene-3,12β,20(S)-triols with 2,3,4,6-tetra-O-acetyl-α-D-glucopyranosyl bromide (I) in the presence of silver oxide in dichloromethane gives a mixture of the acetylated 3-, 12-, 20-, 3,12-di-, and 3,20-di-O-β-D-glucopyranosyl

derivs., e.g., II, in a total yield of 83-84.5%. Under similar conditions, the 3-O-acetyl derivs. of dammar-24-ene-3,12β,20(S)-triols give a mixture of 12- and 20-O-β-D-glucopyranosyl derivs. Condensation of betulafolienetriol both with I in the presence of Hg(CN)2 in MeNO2 and with 3,4,6-tri-O-acetyl-β-D-glucopyranose 1,2-(tert-Bu orthoacetate) in the presence of 2,4,6-trimethylpyridinium perchlorate in PhCl under azeotropic distillation results in dehydration and 20-dehydroxyglucosides are formed.

ST ginseng glycoside; ginsenoside analog; dammaenetriol glycosidation acetylglucopyranosyl bromide; betulafolienetriol glycosidation acetylglucopyranosyl bromide

IT 6892-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation and glucosidation of)

IT 30636-90-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation and glycosidation of, with acetobromoglucose)

IT 7755-02-4 97869-57-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation of)

IT 117708-92-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of, with dammarenetriol)

IT 572-09-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of, with dammarenetriols)

IT 39262-15-2P 89951-12-2P 108181-50-6P 108181-51-7P 108181-52-8P 108181-53-9P 108181-54-0P 108181-55-1P 108181-56-2P 108181-58-4P 108194-57-6P 108212-06-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deacetylation of)

IT 53299-00-6P 108181-49-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and glycosidation of, with acetobromoglucose)

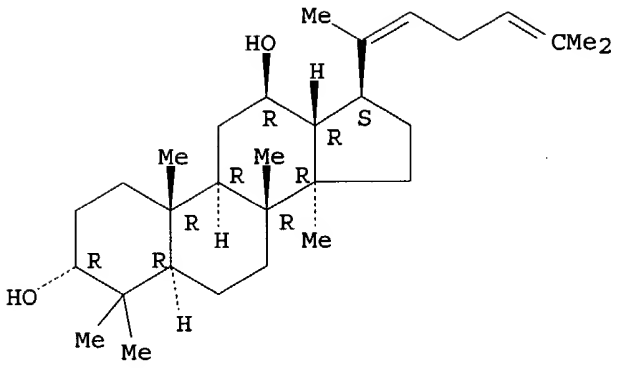
IT 39262-14-1P 62025-49-4P 65980-72-5P 78214-33-2P 108181-57-3P 108181-59-5P 108181-60-8P 108181-61-9P 108194-58-7P 108194-59-8P 108194-60-1P **108266-93-9P** 117666-43-0P 117666-44-1P 117666-45-2P 117666-46-3P 117698-41-6P 117708-91-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

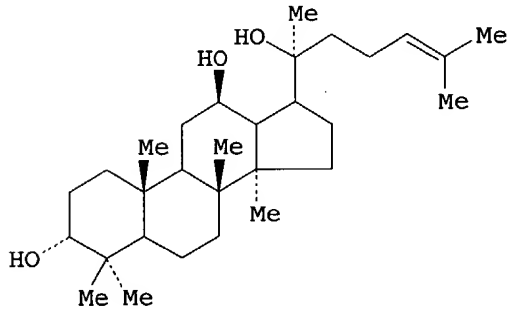
RN 108266-93-9 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3α,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L15 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:423596 HCAPLUS
DN 107:23596
ED Entered STN: 25 Jul 1987
TI Glycosylation of dammarane type triterpenoids. IV. β-D-Glucopyranosides of betulafolienetriol and its derivatives
AU Atopkina, L. N.; Denisenko, V. A.; Novikov, V. L.; Uvarova, N. I.
CS Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR
SO Khimiya Prirodnykh Soedinenii (**1986**), (3), 301-12
CODEN: KPSUAR; ISSN: 0023-1150
DT Journal
LA Russian
CC 33-3 (Carbohydrates)
Section cross-reference(s): 30
OS CASREACT 107:23596
GI

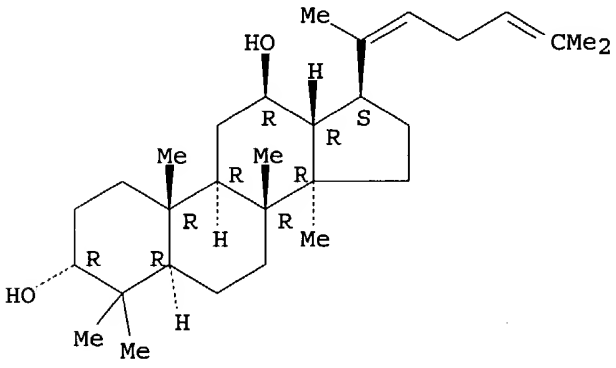


I

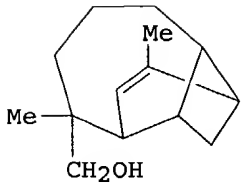
AB Koenigs-Knorr glycosidation of betulafolienetriol (I) gave 3-, 12-, 20-mono- and 3,12-, 3,20-di-O-β-D-glucopyranosides and 3-epimers. Glycosidation by the Helferich reaction or by the orthoester method was accompanied by a dehydration reaction in the side chain which led to the corresponding 20-dehydroxy derivs.
ST glycosidation betulafolienetriol; dammarenetriol glycosidation
IT Triterpenes and Triterpenoids
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of betulafolienetriol)
IT Glycosidation
(Helferich, of betulafolienetriol)
IT Glycosidation
(Koenigs-Knorr, of betulafolienetriol)
IT 4715-05-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with betulafolienetriol)
IT 572-09-8, Acetobromoglucose
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation by, of betulafolienetriol and its epimer)
IT 6892-79-1 30636-90-9 53299-00-6 108181-49-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of, by acetobromoglucose)
IT 7755-02-4P 97869-57-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and partial deacetylation of)
IT 39262-15-2P 51116-90-6P 89951-12-2P 108181-50-6P 108181-51-7P
108181-52-8P 108181-53-9P 108181-54-0P 108181-55-1P 108181-56-2P
108181-57-3P 108181-58-4P 108181-59-5P 108181-60-8P 108181-61-9P
108194-57-6P 108194-58-7P 108194-59-8P 108194-60-1P 108212-06-2P
108266-93-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 108266-93-9 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3α,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L15 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:165322 HCAPLUS
DN 104:165322
ED Entered STN: 17 May 1986
TI Tetracyclic triterpenes and nerolidol derivatives from Santolina oblongifolia
AU De Pascual Teresa, J.; Bellido, I. S.; Gonzalez, M. S.; Vicente, S.
CS Dep. Org. Chem., Salamanca Univ., Salamanca, Spain
SO Phytochemistry (**1986**), 25(1), 185-90
CODEN: PYTCAS; ISSN: 0031-9422
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
GI



I

AB Three new dammarane type triterpenes, 6 polyoxygenated nerolidol derivs., and 1 tricyclic sesquiterpene, named oblongifolidiol (I), were isolated from the hexane extract of S. oblongifolia. The assigned structures were based on their spectra properties and (or) chemical correlations.

ST Santolina triterpene nerolidol deriv

IT Nomenclature, new natural products
(oblongifolidiol (sesquiterpene))

IT Molecular structure, natural product
(of oblongifolidiol (sesquiterpene))

IT Sesquiterpenes and Sesquiterpenoids
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia)

IT Santolina oblongifolia
(tetracyclic triterpenes and nerolidol derivs. from)

IT Triterpenes and Triterpenoids
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(tetracyclic, of Santolina oblongifolia)

IT 17089-08-6 27167-26-6 41628-60-8 52914-31-5 52914-32-6
101559-90-4 101559-91-5 101559-92-6 101559-93-7 101559-94-8
101559-95-9 101559-96-0 101629-23-6 101629-24-7
RL: BIOL (Biological study)
(from Santolina oblongifolia)

IT 7212-44-4D, derivs.
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia)

IT 101559-85-7
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia, isolation and structure determination of)

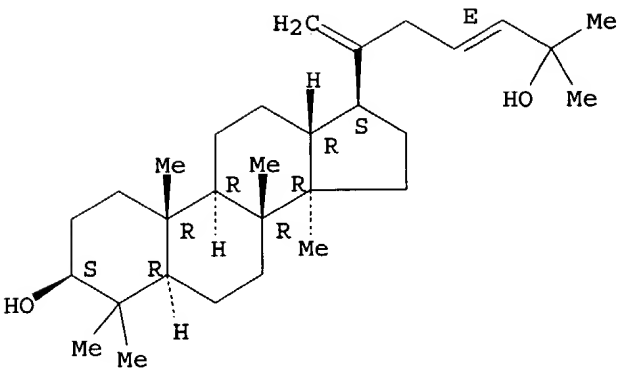
IT 101559-86-8P 101559-87-9P 101559-88-0P **101559-89-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT **101559-95-9**
RL: BIOL (Biological study)
(from Santolina oblongifolia)

RN 101559-95-9 HCAPLUS

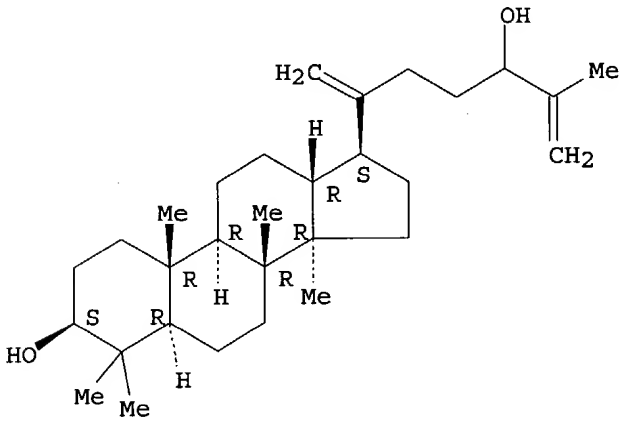
CN Dammara-20,23-diene-3,25-diol, (3β,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **101559-89-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 101559-89-1 HCAPLUS
CN Dammara-20,25-diene-3,24-diol, (3β)- (9CI) (CA INDEX NAME)

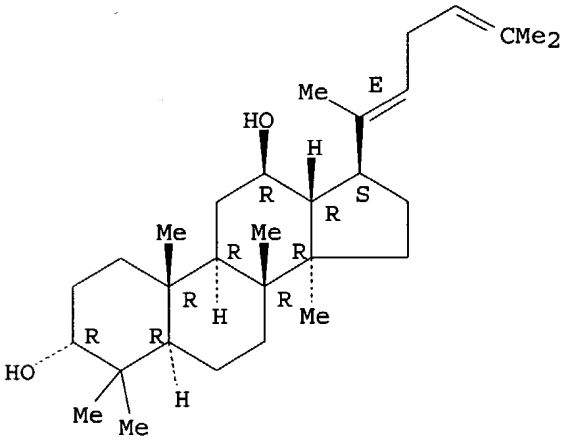
Absolute stereochemistry.



L15 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1984:192109 HCAPLUS
DN 100:192109
ED Entered STN: 08 Jun 1984
TI Effects of side chains at C17 on carbon-13 chemical shifts of dammarane-type tetracyclic triterpenoids
AU Denisenko, V. A.; Novikov, V. L.; Malinovskaya, G. V.; Elyakov, G. B.
CS Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (**1983**), (12), 2727-34
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
CC 30-30 (Terpenes and Terpenoids)
Section cross-reference(s): 22
AB Carbon-13 NMR of 24 dammarane derivs. confirmed that the effect of the side chain at C-17 on chemical shifts is related to the intramol. H bond between a C-12 OH group and an OH or epoxy group at C-20. α17-, β13-, And β16-effects are also observed
ST NMR side chain dammarane
IT Nuclear magnetic resonance

(of carbon-13, of dammaranes, side chain effect on)
IT Triterpenes and Triterpenoids
RL: PRP (Properties)
(dammarane, carbon-13 NMR of)
IT Chains, chemical
(side, effect on carbon-13 NMR of dammarane derivs.)
IT 4937-88-6 84806-18-8 84806-19-9 84806-21-3 84806-23-5
RL: PRP (Properties)
(carbon-13 NMR of)
IT 6892-79-1 14351-29-2 19654-86-5 19666-76-3 19865-87-3 19942-05-3
19942-07-5 20078-65-3 25279-16-7 25279-18-9 38736-83-3
38790-79-3 58562-07-5 58851-26-6 75069-59-9 88195-75-9
89951-11-1 89951-12-2 **89951-13-3**
RL: PRP (Properties)
(carbon-13 NMR of, effect of side chain on)
IT **89951-13-3**
RL: PRP (Properties)
(carbon-13 NMR of, effect of side chain on)
RN 89951-13-3 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3α,12β,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L15 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1969:4377 HCAPLUS
DN 70:4377
ED Entered STN: 12 May 1984
TI Helvolic acid and related compounds. V. Isolation of 3β-hydroxy-4β-hydroxymethylfusida-17(20)[16, 21-cis],24-diene
AU Okuda, Shigenobu; Sato, Yoshihiro; Hattori, Tetsuyasu; Igarashi, Hidenori; Tsuchiya, Toshikazu; Wasada, Nobuhide
CS Univ. Tokyo, Tokyo, Japan
SO Tetrahedron Letters (**1968**), (46), 4769-72
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
CC 32 (Steroids)
GI For diagram(s), see printed CA Issue.
AB The mixture of metabolites isolated from mycelia of Cephalosporium caerulens fractionally recrystd. gave mainly helvolic acid (I) and a diol (II), [α]20D 19.1° (CHCl3); diacetate (III) [α]20D 32.6°. N.M.R. data, the mol. formula, and the origin of II

suggested that II must be a precursor of I in which secondary and primary OH groups are located at C-3 and on a C-4 Me group. II (2.0 mg.) H-labeled with 3H and fed into 100 ml. culture of C. caerulens preincubated 2 days, cultivation carried on for 5 days, and the product isolated gave 14.5 mg. I, m. 214-15°, with 1.71% T incorporation, demonstrating that II is an intermediate in the main biogenetic path of I with the assigned structure lacking the stereochemistry at C-3 and C-4. N.M.R., ir, and mass spectral data were given. II was assigned the structure 3β-hydroxy-4β-hydroxymethylfusida-17(20)[16,21-cis],-24-diene.

ST Cephalosporium caerulens metabolites; metabolites Cephalosporium caerulens; fusidadienes; helviolic acid; acid helviolic

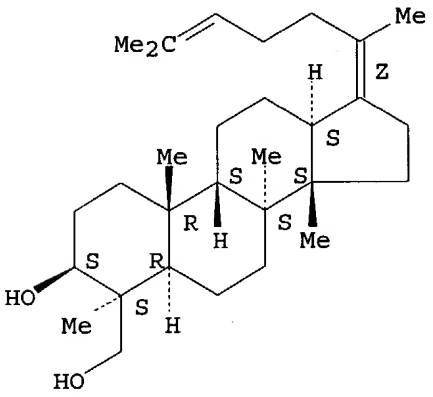
IT 17169-70-9P 22879-37-4P 22879-38-5P **22968-80-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT **22968-80-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 22968-80-5 HCAPLUS

CN Dammara-17(20),24-diene-3,28-diol, (3β,4β,8α,9β,13.alpha.,14β,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



=>

=> fil reg
FILE 'REGISTRY' ENTERED AT 11:22:21 ON 12 JUL 2004

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7
DICTIONARY FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

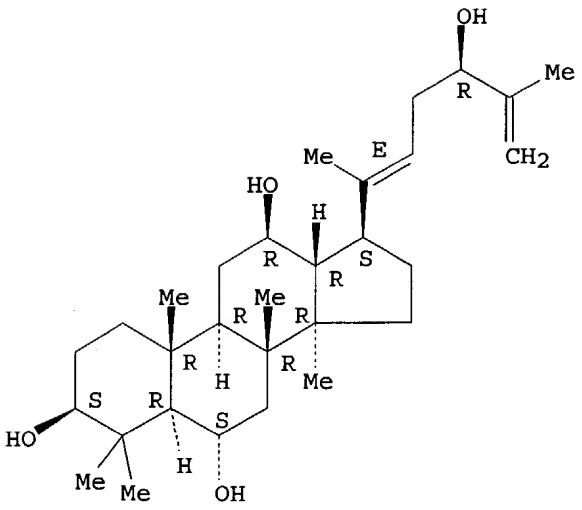
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide can tot l10

L10 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
RN 494753-67-2 REGISTRY
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3β,6α,12β,20E,2
4R)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **PBM 100**
FS STEREOSEARCH
MF C30 H50 O4
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP
(Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

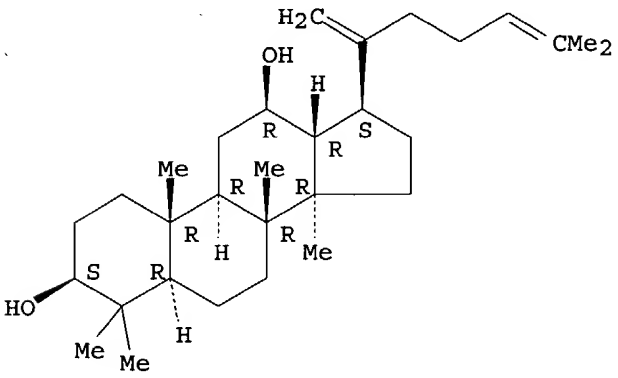
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:362651

REFERENCE 2: 138:133977

L10 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
RN 494753-66-1 REGISTRY
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **PAM 120**
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: CA, CAPLUS, IMSDRUGNEWS, IMSRESEARCH, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:22:41 ON 12 JUL 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 12 Jul 2004  VOL 141 ISS 3
FILE LAST UPDATED: 11 Jul 2004  (20040711/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d all hitstr tot l16

L16  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2004 ACS on STN
AN   2003:796125  HCAPLUS
DN   139:296911
ED   Entered STN:  10 Oct 2003
TI   Extract of processed Panax genus plant
IN   Kim, Dong-hyun; Bae, Eun-ah; Han, Myung-joo; Choo, Min-kyung; Park,
     Eun-kyung; Park, Jeong-hill
PA   Ginseng Science Inc., S. Korea
SO   U.S. Pat. Appl. Publ., 12 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  A61K035-78
     ICS  A61K031-366
NCL  424728000; 514460000
CC   63-4 (Pharmaceuticals)
     Section cross-reference(s): 16
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     --------------    ----  --------       ---------------  --------
PI   US 2003190378      A1   20031009       US 2003-345209   20030116
     WO 2003086438      A1   20031023       WO 2003-KR43     20030110
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS,
             LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,
             PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
             UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
             NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
             ML, MR, NE, SN, TD, TG
PRAI KR 2002-18856      A    20020408
     KR 2002-82055      A    20021221
AB   The present invention relates to an extract of processed Panax genus plant,
```

the preparation thereof and compns. containing the same having anticancer or anti-allergic activity. More particularly, the present invention relates to a processed ginseng product with enhanced pharmacol. effects due to serial treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and subsequent bio-converting treatment such as lactic fermenting and intestinal-bacterial fermenting process so as to make a ratio of ginsenoside (Rk2 + Rh3 + protopanaxadiol + 20-dehydroprotopanaxadiol) to (Rg3 + Rg5 + Rk1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for cancer or allergic diseases and it is useful in the prevention or treatment of cancer or allergic diseases.

ST Panax ext processing antiallergy

IT Allergy inhibitors
Antitumor agents
Fermentation
Lactic acid bacteria
Panax
Panax pseudoginseng
(extract of processed Panax genus plant)

IT Glycosides
Saponins
RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(extract of processed Panax genus plant)

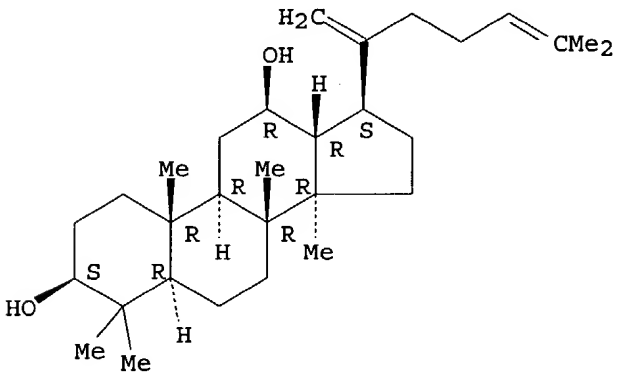
IT 7755-01-3, Protopanaxadiol 11021-13-9, Ginsenoside Rb2 14197-60-5, Ginsenoside Rg3 22427-39-0, Ginsenoside Rg1 41753-43-9, Ginsenoside Rb1 52286-58-5, Ginsenoside Rf 52286-59-6, Ginsenoside Re 53963-43-2, Ginsenoside F1 63223-86-9, Ginsenoside Rh1 78214-33-2, Ginsenoside Rh2 105558-26-7, Ginsenoside Rh3 126223-28-7, Ginsenoside F4 186763-78-0, Ginsenoside Rg5 364779-14-6, Ginsenoside Rk2
494753-66-1
RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(extract of processed Panax genus plant)

IT **494753-66-1**
RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(extract of processed Panax genus plant)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:796124 HCAPLUS
DN 139:296910
ED Entered STN: 10 Oct 2003
TI Use of the extract of processed Panax genus plant and saponins isolated therefrom
IN Kim, Dong-Hyun; Bae, Eun-Ah; Han, Myung-Joo; Choo, Min-Kyung; Park, Eun-Kyung; Park, Jeong-Hill
PA Ginseng Science Inc., S. Korea
SO U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K035-78
ICS A61K031-366
NCL 424728000; 514460000
CC 63-4 (Pharmaceuticals)
Section cross-reference(s): 1, 16
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003190377	A1	20031009	US 2003-345208	20030116
WO 2003086439	A1	20031023	WO 2003-KR44	20030110

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI KR 2002-18843	A	20020408	
KR 2002-85955	A	20021228	

AB The present invention relates to novel use of the extract of processed Panax genus having anti-Helicobacter pylori activity. More particularly, the present invention relates to a processed Panax genus extract with enhanced pharmacol. effects due to subsequent treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and bio-converting treatment such as lactic acid bacterial fermenting and intestinal bacterial fermenting process so as to make a ratio of ginsenoside (Rk2 + Rh3 + protopanaxadiol + 20-dehydroprotopanaxadiol) to (Rg3 + Rg5 + Rk1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for Helicobacter pylori bacteria and H+/K+-ATPase enzyme and, therefore, it is useful in the prevention or treatment of gastrointestinal diseases caused by abnormal proliferation of Helicobacter pylori such as gastritis, gastric ulcer, duodenal ulcer and gastric cancer.

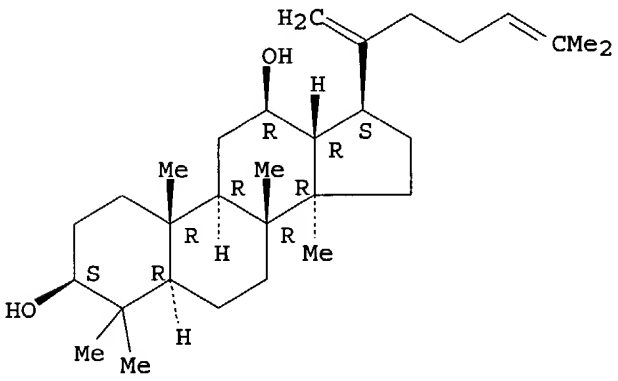
ST Panax ext saponin Helicobacter
IT Digestive tract, disease
Drug delivery systems
Helicobacter pylori
Panax
(use of extract of processed Panax genus plant and saponins isolated therefrom)
IT Glycosides
Saponins
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(use of extract of processed Panax genus plant and saponins isolated therefrom)
IT 7755-01-3 11021-14-0, GinsenosideRc 14197-60-5 30636-90-9

34080-08-5 38243-03-7 41753-43-9, Ginsenoside Rb1 63223-86-9
78214-33-2 105558-26-7, Ginsenoside Rh3 112246-15-8 186763-78-0,
Ginsenoside Rg5 364779-14-6, Ginsenoside Rk2 **494753-66-1**
494753-69-4, Ginsenoside Rk1
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(use of extract of processed Panax genus plant and saponins isolated therefrom)

IT **494753-66-1**
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(use of extract of processed Panax genus plant and saponins isolated therefrom)

RN 494753-66-1 HCAPLUS
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:355832 HCAPLUS
DN 138:362651
ED Entered STN: 09 May 2003
TI Novel dammarane sapogenins, their use as anti-cancer agents, and a process for producing same
IN Huang, Dong; Qi, Dong Feng
PA Can.
SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 910,887.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K031-704
ICS C07J001-00; C07J009-00; A61K031-56
NCL 514026000; 514182000; 536005000; 552540000
CC 1-6 (Pharmacology)
Section cross-reference(s): 11, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003087836	A1	20030508	US 2001-982018	20011019
	US 2003087835	A1	20030508	US 2001-910887	20010724
	WO 2003010182	A1	20030206	WO 2002-CA1173	20020724

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:296911

REFERENCE 2: 139:296910

REFERENCE 3: 138:362651

REFERENCE 4: 138:133977

=> fil uspatall
FILE 'USPATFULL' ENTERED AT 11:22:31 ON 12 JUL 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 11:22:31 ON 12 JUL 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

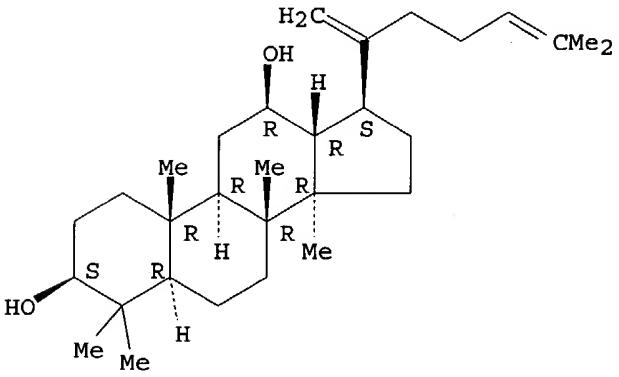
=> d bib abs hitstr tot l18

L18 ANSWER 1 OF 4 USPATFULL on STN
AN 2003:270776 USPATFULL
TI Extract of processed Panax genus plant, the preparation method thereof, and compositions containing the same
IN Kim, Dong-Hyun, Seoul, KOREA, REPUBLIC OF
Bae, Eun-Ah, Seoul, KOREA, REPUBLIC OF
Han, Myung-Joo, Seoul, KOREA, REPUBLIC OF
Choo, Min-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Eun-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Jeong-Hill, Seoul, KOREA, REPUBLIC OF
PA Ginseng Science Inc. (non-U.S. corporation)
PI US 2003190378 A1 20031009
AI US 2003-345209 A1 20030116 (10)
PRAI KR 20020408
KR 20021221
DT Utility
FS APPLICATION
LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1106
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to an extract of processed Panax genus plant, the preparation thereof and compositions containing the same having anticancer or anti-allergic activity. More particularly, the present invention relates to a processed ginseng product with enhanced pharmacological effects due to serial treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and subsequent bio-converting treatment such as lactic fermenting and intestinal-bacterial fermenting process so as to make a ratio of ginsenoside (Rk.sub.2+Rh.sub.3+protopanaxadiol+20-dehydroprotopanaxadiol) to (Rg.sub.3+Rg.sub.5+Rk.sub.1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for cancer or allergic diseases and it is useful in the prevention or treatment of cancer or allergic diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **494753-66-1**
(extract of processed Panax genus plant)
RN 494753-66-1 USPATFULL

CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

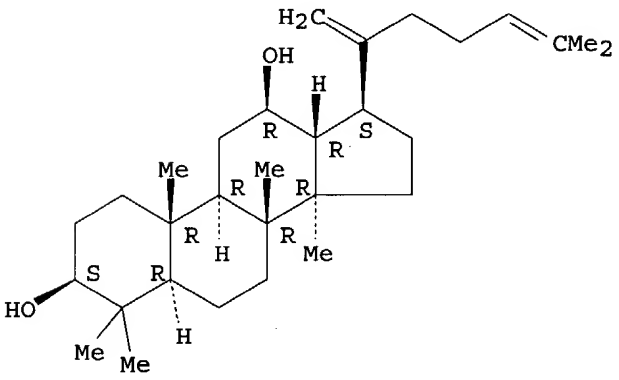


L18 ANSWER 2 OF 4 USPATFULL on STN
AN 2003:270775 USPATFULL
TI Novel use of the extract of processed Panax genus plant and saponin compound isolated therefrom
IN Kim, Dong-Hyun, Seoul, KOREA, REPUBLIC OF
Bae, Eun-Ah, Seoul, KOREA, REPUBLIC OF
Han, Myung-Joo, Seoul, KOREA, REPUBLIC OF
Choo, Min-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Eun-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Jeong-Hill, Seoul, KOREA, REPUBLIC OF
PA Ginseng Science Inc. (non-U.S. corporation)
PI US 2003190377 A1 20031009
AI US 2003-345208 A1 20030116 (10)
PRAI KR 20020408
KR 20021228
DT Utility
FS APPLICATION
LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1003
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel use of the extract of processed Panax genus having anti-Helicobacter pylori activity. More particularly, the present invention relates to a processed Panax genus extract with enhanced pharmacological effects due to subsequent treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and bio-converting treatment such as lactic acid bacterial fermenting and intestinal bacterial fermenting process so as to make a ratio of ginsenoside (Rk.sub.2+Rh.sub.3+protopanaxadiol+20-dehydroprotopanaxadiol) to (Rg.sub.3+Rg.sub.5+Rk.sub.1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for Helicobacter pylori bacteria and H.sup.+/K.sup.+-ATPase enzyme and, therefore, it is useful in the prevention or treatment of gastrointestinal diseases caused by abnormal proliferation of Helicobacter pylori such as gastritis, gastric ulcer, duodenal ulcer and gastric cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **494753-66-1**
(use of extract of processed Panax genus plant and saponins isolated therefrom)

RN 494753-66-1 USPATFULL
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

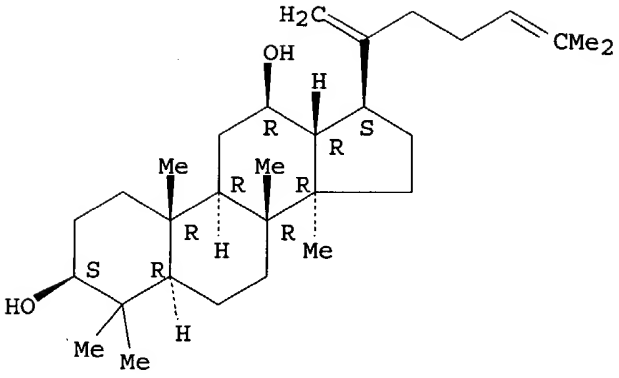
Absolute stereochemistry.



L18 ANSWER 3 OF 4 USPATFULL on STN
AN 2003:127621 USPATFULL
TI Novel dammarane sapogenins, their use as anti-cancer agents, and a process for producing same
IN Huang, Dong, Surrey, CANADA
Qi, Dong Feng, Shenyang City, CHINA
PI US 2003087836 A1 20030508
AI US 2001-982018 A1 20011019 (9)
RLI Continuation-in-part of Ser. No. US 2001-910887, filed on 24 Jul 2001, PENDING
DT Utility
FS APPLICATION
LREP Oyen Wiggs Green & Mutala, Gerald O.S. Oyen, #480 - 601 West Cordova Street, Vancouver, BC, V6B 1G1
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 991
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to a group of novel sapogenins, their use in anti-cancer applications, and to a process for their production. More particularly, this invention pertains to a novel group of dammarane sapogenins, PAM-120, PBM-110 and PBM-100 (the dammarance sapogenine structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and PAN-20 and PAN-30 (the dammarance sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anti-cancer treatment by using them separately or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anti-cancer effect when applied, particularly against multi-drug resistant cancers.

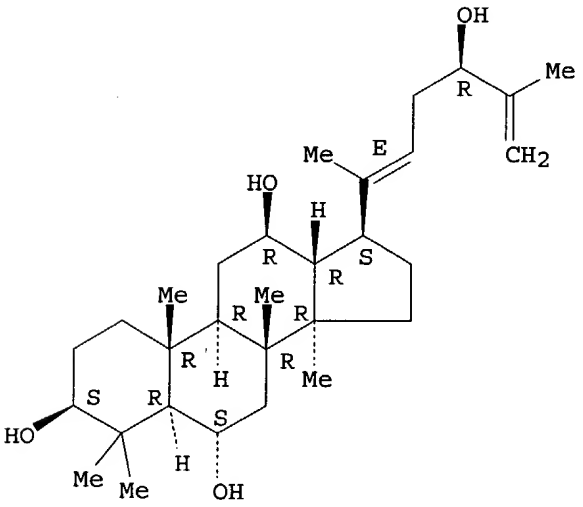
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **494753-66-1P**, PAM-120 **494753-67-2P**, PbM-100
(isolation of dammarane sapogenins and their use as anticancer agents)
RN 494753-66-1 USPATFULL
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494753-67-2 USPATFULL
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3β,6α,12β,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

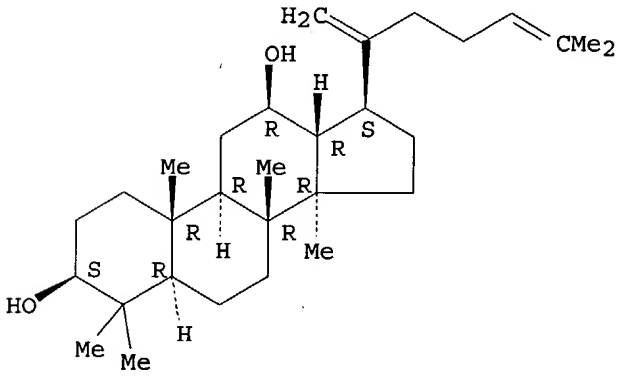


L18 ANSWER 4 OF 4 USPATFULL on STN
AN 2003:127620 USPATFULL
TI Novel aglycon dammarane sapogenins, their use as anti-cancer agents, and a process for producing same
IN Huang, Dong, Surrey, CANADA
Qi, Dong Feng, Shenyang City, CHINA
PI US 2003087835 A1 20030508
AI US 2001-910887 A1 20010724 (9)
DT Utility
FS APPLICATION
LREP Oyen Wiggs Green & Mutala, #480 - The Station, 601 West Cordova Street, Vancouver, BC, V6G 1G1
CLMN Number of Claims: 32
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 991
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to a group of novel sapogenins, their use in anti-cancer applications, and to a process for their production. More

particularly, this invention pertains to a novel group of dammarane sapogenins, PAM-120, PBM-110 and PBM-100 (the dammarance sapogenine structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and PAN-20 and PAN-30 (the dammarance sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anti-cancer treatment by using them separately or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anti-cancer effect when applied, particularly against multi-drug resistant cancers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **494753-66-1P**, PAM 120 **494753-67-2P**, PBM 100
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
RN 494753-66-1 USPATFULL
CN Dammara-20,24-diene-3,12-diol, (3β,12β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494753-67-2 USPATFULL
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3β,6α,12β,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.